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## VETERINARY TRAINING AND RESEARCH

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In a previous issue the *Veterinary Record* published the portion of the Report of the Committee on Education and Supply of Biologists acting under the Economic Advisory Council that applies particularly to the veterinarian and accompanied it by an editorial germane to the Report. The editorial, excellent as a general appreciation of the Report as a whole, does not go further in its analysis of the Report's findings of particular application to the profession, than to point out that two of the main reasons for the dearth of trained biologists are the uncertain and financially unsatisfactory careers that are open to the biologist and the natural restriction of the numbers undertaking biological training at the universities following upon this fact and upon the neglect of this science in the schools. The section of the Report dealing with the Veterinary Services, however, reviews the present standing of the profession, points out certain deficiencies more particularly as regards research, and finally makes a number of recommendations for improving veterinary specialisation. The need for this improvement is, perhaps, the main point of that section of the Report; it further points out that up to the present veterinary training has been solely directed towards the production of veterinary practitioners. The supply of teachers and research workers has been left to the fickleness of the fates and their subsequent nurture to the tender mercies of a parochial Mr. Bumble. Owing to their totally inadequate financial help during the past it is quite easy for us as a profession to blame past governments for our comparatively slow advance as an applied science, or we might, with some justice, refute the charge and say that, considering the fact that the profession was not really founded until 1844 and that financial help has since been so meagre, the development of the profession has actually been greater than that of many other professions which were already far advanced when we began and have not suffered from undue poverty since. But such assertions, just as they may be, can only act as all too efficient blinkers for our future advance. They still enable us to see the straight and narrow way ahead along the one path we have continued to travel, but they completely conceal from us the numerous side tracks leading to other useful goals and all essential to the complete development of the territory of veterinary science. We frequently hear the expression of regret that no veterinary specialist is attached to such and such a body, but at the moment our specialists are all too few and generally speaking are of one type and largely self trained. As the Report says, " it should be recognised . . . . that . . . . research should evolve by appropriate specialisation and that a general veterinary training is not the sole equipment for research."

So we are brought to the main question, the solution of which is at present in the hands of the profession but which, later, if not soon seized, may quite easily be transferred to others. Are we as a profession content to train only true veterinary surgeons, or are we to realise that veterinary science is much wider than clinical medicine and surgery and so adjust our education to allow for the development of specialists in physiology, biochemistry, animal nutrition, animal reproduction, pharmacology, pathology, bacteriology, protozoology, helminthology and entomology in addition to our experts in public health and veterinary medicine and surgery? All of the above-named sciences are of particular interest to veterinary science and in them the profession should have its own specialists. The latter should not be expected to be authorities in several of the sciences at once; an expert pathologist cannot be expected to be an expert bacteriologist and immunologist nor should we expect a specialised parasitologist to be expert in protozoology, helminthology and entomology at the same time. We could supply our needs by importing non-veterinary specialists in the requisite subjects but it is obvious that a veterinary specialist should prove more efficient and more sympathetic to veterinary problems, provided that he has been satisfactorily trained. It is useless to argue that the present course for the membership diploma includes all the above subjects; we must fully realise that although the knowledge thus gained is quite sufficient for the clinician it is altogether inadequate for the man who is later to specialise in any one of these branches of science.

My own view is that, as a profession, we must develop capable research workers in all the cognate sciences so that we may conduct concerted and sound attacks on veterinary problems. If we do not do this soon there is little doubt that veterinary research will fall entirely into the hands of others. To realise

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the force of this remark we need only cite the examples of present research in both distemper and foot-and-mouth disease. In both of these problems the excellent work done by veterinarians has largely been in collaboration with members of other professions and as the experience of these latter increases so further veterinary problems will tend to pass to them. The consequent abortion of veterinary research cannot but result in a still greater lack of sympathy from the authorities, for it is largely by the results of its research that a scientific profession is judged, its status raised and its coffers filled.

As it is generally impossible for a student to prosecute both a veterinary course and a course in some other science at the same time, it follows that our research specialist must either take an honours degree in his chosen subject and subsequently a veterinary course, or he must first take the veterinary diploma and then undergo further specialised post-graduate training. Admittedly for certain subjects it is almost essential that a degree course be taken in addition to the professional diploma, and this, in my opinion, is by far the better way, but for many others a post-graduate course of a year or two in that particular science would be sufficient. The R.C.V.S., by the institution of the Diploma of Veterinary State Medicine, has already recognised the necessity for this post-graduate specialisation for those entering public health. Other specialisations, it seems to me, should also remain entirely in the hands of the R.C.V.S., namely, those definitely associated with veterinary medicine or surgery or that require a slightly more advanced knowledge of a number of the professional subjects. Thus a post-graduate diploma of tropical veterinary medicine should be a task for the profession itself. But when a veterinary surgeon wishes to specialise in one of the pure sciences for subsequent applied research in this science, it seems to me that, lacking the opportunity of taking a degree in this subject, he should first take a course for a year or so in some laboratory specialising in that science. In most of the research laboratories a course of lectures covering the science is given, but it would be preferable to take a post-graduate diploma, where this is possible, and follow this up by, at least, two years research training under some inspiring research leader of that science whilst holding an adequate scholarship. At the present time it is absurd to expect to train every specialist in a veterinary laboratory. Later, when we have our quota of efficient specialists it will be possible for us to train all types of budding research workers, although even then it will always be necessary to consider the advantages to a young man of a complete change of environment for a year or so. The difficulty with this idea will be to persuade the universities to institute the necessary diploma, but in some instances, such as with the Diploma of Bacteriology of London University, the Royal College membership diploma is already recognised as sufficient qualification for the course and veterinary surgeons, along with medical and honours science graduates, indulge together in a year's post-graduate training in bacteriology and immunology. With other subjects, however, the universities have their own degree courses and would not, therefore, sympathetically consider the creation of new diplomas. The difficulty might be surmounted by the institution of a number of diplomas by the R.C.V.S., but as the number of candidates will be small it might be better to alter the Royal College Fellowship regulations so that the fellowship could be gained by examination and not necessarily by research. The examination would be of a high standard and would consist of both written and practical papers in some specialised science, such as protozoology, helminthology, etc., and would be taken after the candidate had studied for at least a year in some recognised specialist laboratory. By such a year's training, especially if this be followed by further research training, the individual will not only imbibe to the full the spirit of his chosen science but he will gain much from the broadening contact with many workers whose training has been quite different from his own.

But all this means prolonging the period of training. To some extent this is inevitable for the man who wishes to specialise, and if he is unwilling to go through a further period of hard training before he is recognised as a competent research worker he might as well give up the thought of such a career at once. A man who is anxious to do research must be keen on his particular work, otherwise he will rarely prove a success. It is for this reason that the selection of science graduates for post-graduate veterinary scholarships should be very carefully made to ensure that such individuals are really keen and are likely to make efficient research specialists. The Royal College, however, might make some concession to the honours graduate and allow him to sit his professional examinations during the first three years in less than the scheduled time. In this way a year might be saved. Furthermore, I personally consider that the profession would gain much by allowing candidates to take the first professional examination from school. There is little doubt that we lose many possible entrants because other professions, especially that of medicine, do grant this concession Also headmasters of most of the better schools, both public and secondary, persuade boys to stay on until they are eighteen, by which time a boy is anxious to

have started on his professional career. By some professions this is allowed, but not as yet, by ours. These, however, are minor considerations to the general theme of this paper, which is to encourage the development of veterinary specialists.

Changes such as those outlined above would undoubtedly increase the flow of science graduates into our profession and greatly facilitate the development of veterinary specialists, especially if these changes were coupled with increased financial support to the profession. In my view such support would follow on a determined effort on the part of the profession to improve its research side, and it would certainly enhance its status, and so would indirectly aid the practitioner in his fight against unqualified practice.

A further change, indicated by the Report, is also necessary, however; namely, that veterinary teaching should not be divorced from veterinary research. The only way to amend this grave deficiency is the installation of properly manned college departments. To expect professors to run single-handed their departments and at the same time to prosecute research is ridiculous. The professor should be adequately supported by lecturers and demonstrators, with whom he would share the teaching, so allowing this to be thorough, even on the experimental side, but in addition the staff would have sufficient time to carry out original and noteworthy research. In my opinion the divorce of research from teaching results to the detriment of both.

In conclusion, I would add that the sole reason for this article is a desire to help the profession to develop into one of high scientific standing. Many, perhaps most, will disagree with me, but at least none can fail to be interested in a point of view that has rarely, if ever, been put before the profession. At any rate, we ought not to shut our eyes to the purport of the government reports that have lately been appearing, especially when they deal with the veterinary profession. It is because of the repeated reference, in such reports, to our lack of trained specialists that I have been constrained to write this article, but in conclusion, I would emphasise that although I regard this specialist development as essential to the well-being and further advance of the profession as a whole, I nevertheless fully realise that it is but complementary to our main business, namely, the education of clinicians. Veterinary science may be considered broadly as that group of sciences which affects the health of animals and it may be divided into two parts; one that deals with the gaining of exact knowledge of all the conditions associated with particular diseases, including a close study of methods of prevention and treatment, and the other dealing with the application of the knowledge so gained in the field of actual practice. It is obvious that without the first fully developed and progressing in full sympathy with the second, neither branch can make that important contribution to the welfare of man and animals that the public naturally expects.

# JOHNE'S DISEASE—SHOULD IT BE SCHEDULED?*

S. H. GAIGER, F.R.C.V.S.

This afternoon we are asking ourselves the question "Should Johne's Disease be Scheduled?" Before we find an answer to this question we must have before us, in outline, the main facts in our knowledge concerning this disease. We must ask ourselves what the things are which we *do* know, and consider the significance of the things which we do *not* know.

In the first place it is necessary to look back upon the history of Johne's disease. Is it an oldstanding disease? When did it first come to Britain, and is the disease in this country on the increase?

When one looks up the literature, one learns that the lesions were first described by continental writers about a hundred years ago, that the causal organism was not discovered until 1895, and that for some years after its discovery very little notice was taken of the disease because it was thought that the disease was probably an intestinal form of tuberculosis. It was not until about ten years later that reports of the existence of the disease began to come in from everywhere; in fact, observers had only to look for the disease in all civilised countries to find that it was present. Our knowledge of the disease in Britain dates from 1906, when it was first discovered here. At the time of its discovery in this country many practitioners at once recognised that this was a condition with which they were familiar in their practices. One is forced to the conclusion that Johne's disease is not a new disease but that it has probably existed in different countries in the world, like many other diseases, from time immemorial.

We must now ask ourselves whether Johne's disease is increasing in extent in this country. Twort and Ingram, in their book upon Johne's disease published in 1913, expressed their belief that the disease was then widespread over England. Whether that is correct or not, one is in no doubt, at the present time, as to the serious losses which Johne's disease is causing to the country or as to its almost widespread distribution. There are few country practitioners who are not familiar with it. Recently in Liverpool we had occasion to endeavour to find a few farms in Lancashire and Cheshire

*Contribution made in opening a discussion upon this subject at a meeting of the Lancashire Division, N.V.M.A., held at Manchester on January 20th, 1932.

of which it could be said that they were free of Johne's disease and that there was no record of cases ever having occurred. After a considerable amount of enquiry we were only able to find one or two farms which could be said to come into such a category. Doubtless Johne's disease has increased within the last 25 years for the same reason that other diseases have increased, namely, because of the greater facilities for transport of cattle up and down the country.

Let us now examine some of the known general facts with regard to the disease, and in these I do not mean to include our laboratory knowledge of the organism, its cultivation and so forth. In the first place we know that Johne's disease is, for all practical purposes, a disease of bovines only. I am personally acquainted with one farm where a few cases of Johne's disease can generally be found amongst sheep, but that is quite exceptional. Next, we know that infection is confined in the body to the alimentary canal and its associated abdominal lymphatic glands. We know that infection only leaves the body of the infected animal in the alimentary excreta and we know that infection is only taken in by healthy animals along with their food and drinking-water. We are all aware that Johne's disease may only be recognised by the farmer, on a hitherto clean farm, when one or more cases show very well-marked clinical symptoms of the disease. When one examines the history of the spread of the disease upon a newly-infected farm one finds that the farmer's troubles begin soon after the first appearance of the original definite clinical cases. It may be that the farmer has purchased an animal which is to all appearances perfectly healthy. About two years from the time of purchase this infected animal is a well-marked clinical case. Following the disposal of this case, one finds that over a long succession of years losses continue from the disease. A study of the records leads one to believe that losses on a farm are proportionate to the extent of gross infection on that farm.

Now let us examine some of the things which we do *not* know about Johne's disease. We do not know, in the first place, for how long the organism will remain alive outside the body upon pastures. One might be entitled to assume that the Johne's organism resembles, in this respect, the tubercle bacterium, which has been found to remain alive upon pastures for two months in summer and for five months in winter. We have no real knowledge, in Johne's disease, of the amount of infection which determines actual infection of a healthy animal. Is it a case of repeated small amounts of infection, or does one large quantity of infection determine an attack? It seems that one can assume that cattle are really naturally very insusceptible to infection. It takes a comparatively large dose of culture to infect, and successful experimental infection is unlikely unless one gives the dose of culture material intravenously. These facts have an important bearing upon control of the disease, because we must ask ourselves whether the disease could be eliminated merely by the clearing up of gross infection about a farm. We do not know the period of incubation in Johne's disease, and by this I mean the length of time between exposure to infection and the time when infection actually takes a hold of the alimentary mucosa. It may be that this period is determined by the amount of infection ingested, but as to this no one is in a position to speak with any certainty. We are not in a position to say at what stage in infection an animal becomes dangerous, in the sense that it eliminates sufficient organisms in its own excreta to infect other animals. Can anyone say at the present time to what extent an animal, in the pre-clinical stage of the disease, is a source of danger to others? We probably all agree that the well-marked case would be better eliminated, but where are we to draw the line with animals in the early pre-clinical stage of infection or with animals which are just beginning to be suspicious? Can any of us say what proportion of animals in the pre-clinical stage progress to become clinical cases, and what proportion recover, if any?

I want now to refer to the question of diagnosis. We may roughly divide Johne's disease infected animals into three groups. First there are the definite clinical cases which we have no difficulty at all in diagnosing. Secondly, there are cases which are only suspicious, and which we would not be entitled to suspect unless they were found in a known-to-be-infected herd. Thirdly, there is the pre-clinical group of infected animals. With regard to the second and third groups our only hope of precise diagnosis is a test of some kind such as the johnin test now being extensively tried out in this and other countries.

In carrying out the johnin test there are only two principal methods which need be considered; firstly, the subcutaneous method and secondly the double intradermal method. It may at once be said that the subcutaneous test for Johne's disease has very little chance of adoption in Britain. As used in America it involves taking three pre-inoculation temperatures and twelve post-inoculation temperatures at one hour intervals. Such a laborious test could never come into practical use here. The double intradermal test is carried out upon the same lines as the double intradermal tuberculin test, and this afternoon we must ask ourselves whether this test can be relied upon to detect pre-clinical and suspicious cases of the disease. The answer to this question is certainly both "yes" and "no,"

in that the test certainly does detect some animals which no clinician could definitely diagnose, but it misses other animals in the early stages which show unmistakable lesions of Johne's disease upon *post-mortem* examination. I think that amongst those who have used johnin extensively, there is general agreement that in this test more doubtful reactions occur than are found in the double intradermal tuberculin test. There are those who think that doubtful reactors in the double intradermal tuberculin test are disturbingly high, but it will be found that this may be said with greater force in regard to the double intradermal johnin test. We must ask ourselves whether we can reasonably expect that the johnin test can ever be as effective in detecting infection as the tuberculin test. Personally, I believe it is expecting too much to think that this can ever be the case. These allergic reactions in animals depend upon the system being sensitised to the antigen which we inject, and it stands to reason that an animal in the early stages of Johne's infection can only be in a very mild stage of sensitisation. In tuberculosis the lesions are, as it were, inside the system. There may be lesions in the lungs or any of the organs, but in Johne's disease, infection is to all intents and purposes almost outside the system, in that it is in early cases confined to a small portion of the surface of the alimentary mucosa. It seems hardly reasonable to expect that such cases will give a pronounced reaction to the injection of a small quantity of antigen into the substance of the skin. On the whole, however, one may conclude with regard to johnin that it is a valuable *aid* to other measures of eradication in that it does detect a proportion of cases which would not be suspected clinically for some time.

The next question one feels inclined to ask is in regard to the general measures which it is necessary to take to get rid of Johne's disease from a farm. Personally, I believe that where systematic elimination of clinical cases is carried out, together with systematic elimination of animals which are undoubtedly reactors to the johnin test, and where every effort is made to clear out gross infection about the farm the disease will in course of time disappear. By the clearing out of gross infection I mean all those measures, including disinfection, which we must take to prevent excreta eventually finding its way into the alimentary tract of healthy animals, for example, a careful disposal of manure and so on.

This brings me back to the question which we have before us this afternoon, namely, "Should Johne's disease be scheduled?" The first thought that occurred to me with regard to this question was as to what is meant by the word "scheduled." If by scheduling, for this country, is meant what state control means in America, namely, compensation being paid for the slaughter of reactors to the johnin test, then both as a veterinarian and a taxpayer I should be in opposition. In view of what I have said with regard to the things we do not know about the disease I do not think the country would be justified in undertaking such very expensive measures. We must ask ourselves whether the reading of the johnin test is sufficiently definite to be placed in the hands of practitioners as a basis for slaughter and compensation. I would give it as my opinion quite definitely, that at the present time the test does not provide us with a sufficient basis for this. If the word scheduled means making it an offence to sell clinical cases of Johne's disease to other farmers then I should be in sympathy with such a proposition, but I would suggest that this is as far as the law could go at the present time. This would, of course, not accomplish as much for Johne's disease as is being accomplished for tuberculosis at the present time. Perhaps we might go further and advocate the slaughter of clinical cases. Finally, I would suggest that there would be ample scope for the setting up of a Johne's disease research committee along the lines of the foot-and-mouth disease research committee, but as such a committee could not get seriously to work without a considerable annual grant I see no prospect of such a proposition being accepted at the present time.

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Major A. B. Mattinson, in continuing the discussion, referred to Professor Gaiger's observation that he was unable to find a farm in Lancashire or Cheshire where Johne's disease did not exist, and said that he could take him to many such farms. Professor Gaiger had not said anything about the class of animal which was the most susceptible to the disease, and in his (Major Mattinson's) experience, it was the seasoned animals, second calvers, which either then showed clinical symptoms, or were resistant, on premises which readily infected younger animals.

He would like to hear from Professor Gaiger at what stage of disease an infected animal became a source of infection to others.

Professor Gaiger had given as one reason for the difficulty of scheduling, the fact that there was no dependable diagnostic agent, and, in connection with this observation, the speaker drew attention to the Tuberculosis Order of 1925. When this Order was introduced, the Ministry of Agriculture circulated an explanatory memorandum to their Veterinary Inspectors, and to local authorities administering the Order, pointing out that the tuberculin test should only be applied in very exceptional circumstances, being very rarely necessary. Most local authorities had amplified this, and given instructions to their Veterinary Inspectors that the test must not be applied without first obtaining their sanction, with full details as to why the application of the test was considered necessary. If this condition of affairs was suitable for the Tuberculosis Order, the absence of a diagnostic agent did not seem of much importance, providing that scheduling applied to clinical cases only, and it seemed inconsistent that the Ministry of Agriculture should put that reason, or excuse, forward for

not scheduling Johne's disease, when the use of an almost 100 per cent. effective diagnostic agent —tuberculin—was practically forbidden in dealing with tuberculosis, a disease very similar in many clinical aspects to Johne's disease.

With regard to the question of scheduling, he agreed with Professor Gaiger when he said that he wanted to know what it meant. He would suggest that the principles to be embodied in any Order scheduling the disease would form a very suitable subject for discussion by the Division. He thought that Professor Gaiger had suggested that compensation usually went with slaughter, but both compensation and slaughter were perhaps more the exception than the rule in diseases now scheduled, and the question of compulsory slaughter with compensation did not arise now in any urgent form until the nation was more affluent, and the disease more under control.

He would put forward the suggestion that Johne's disease should be dealt with on the same lines as bovine contagious abortion was dealt with in the Epizootic Abortion Order of 1922, except that any such enactment should not be allowed to lapse by neglect of enforcement, as that Order had done, owing to the hopeless apathy of the local authorities responsible for its administration.

The provision for declaring premises where Johne's disease existed to be an infected place, and limiting movement of affected or suspected animals except for slaughter, would have a most beneficial effect, and be of especial protection to the herd-owner anxious to ensure that his replenishments were from clean stock. It would also prevent trafficking in infected animals, and, indirectly strengthen the administration of the Tuberculosis Order.

Had tuberculosis been scheduled thirty years ago, it would not have attained its appalling hold of to-day, but Johne's disease would be equally out of hand—and indeed already was in some districts—if no official action were taken to control it.

Mr. H. J. Matthews thought that the meeting should keep in mind the fact that they were attempting to reach a decision as to whether they would support the Midland Counties, oppose, or "sit on the fence," in the matter of the scheduling of Johne's disease. He was of the opinion that it was impossible to interpret what was meant by the resolution under consideration. Until it could be interpreted, it could not be supported. The question of national economy could not be overlooked, and it was not likely that any compensation would be offered, nor was it likely that additional fees would be paid to veterinary surgeons unless urgently necessary. He thought that rather than concentrate on one particular disease such as Johne's, a review should be made of all similar conditions. There were no really accurate figures available on birth rates, death rates, causes and costs of death and disease, and until such data were available the matter could not be proceeded with very far.

There had been two sets of figures published recently—one from Kent and the other from Scotland. Both dealt with the causation of wastage from herds. Neither series covered a very long period nor a great number of animals, but in each, disease was shown to be an important factor. Of the diseases, abortion and sterility, classified together, headed the list. Johne's disease came third in one series and fourth in the other.

Continuing, Mr. Matthews said that he might have wandered from the immediate point of discussion, but even if the proposal was to be turned down, they should be constructive, and he thought the N.V.M.A. should consider urging upon the Ministry of Agriculture the necessity of setting up machinery to enquire not only into Johne's disease, but other zymotic diseases. Until accurate figures had been collected over the whole country, he did not see how the profession could justify concentration on the subject of Johne's disease any more than they could on that of abortion.

He was reading recently a phrase by Aldous Huxley, who wrote that "the world is suffering to-day from maladministration of a little science, and the cure is good administration of more science," and he thought it was applicable to the discussion that afternoon. The science required was a reliable knowledge of the relative economic importance to the country of all the zymotic diseases. Only upon that could a useful public health service be built up.

Mr. P. C. Webster referred to Professor Gaiger's remarks concerning heavy infection, and asked if heavily infected animals were similar to tuberculous animals.

Veterinary-Colonel G. Rees-Mogg expressed his pleasure at being present as a visitor. He stated that he kept a herd of Friesians and had lost recently five animals from Johne's disease. One of the speakers had said that the condition did not cause much financial loss, and he would like to correct that statement. He had been informed that the disease was increasing enormously. The main point seemed to be early diagnosis, although if one had a good show animal with the disease, which was in-calf, if there was a chance of the calf being born alive, one felt inclined to keep the animal alive. He would like Professor Gaiger to say if he considered two years was a sufficient period for manure to be kept in a manure-heap before being put on pasture to avoid infection of the land.

Mr. Harold Burrow contributed the following, which was read to the meeting in his absence:— It is generally accepted that Johne's disease is on the increase in this country and is a source of much financial loss to stock-owners, and indirectly to the nation. The cause of the disease and the symptoms shown in *advanced* cases are well known, but it is in the pre-clinical stages that cases defy detection by ordinary examination. No one for a moment will deny that in the interests of the livestock population some control of the disease is advisable and even necessary. The question arises as to how far we are to go in our methods of control. The intradermal Johnin test, while promising to be reliable after further refinements in technique, etc. have occurred, cannot as yet be said to be a reliable weapon with which to attempt eradication of the disease. On the other hand, it is not advisable to allow clinical cases of the disease to be moved from farm to farm *via* auctions or by private sale, or to be allowed to live and spread the infection until they finally die. There is no doubt that an animal affected with Johne's disease spreads the bacilli copiously in its dung, and is a menace to its neighbours for weeks, and possibly months, before the usual clinical symptoms appear. Until a perfectly reliable test has been evolved we cannot detect and control pre-clinical cases, but this is no excuse for allowing animals to continue to spread massive quantities of bacilli when once clinical signs have appeared. One feels that a start might be made in the control of the disease by putting restrictions on clinical cases. We might commence by prohibiting the sale of such animals and their movement from infected herds into other herds hitherto free from infection, and stop the trafficking of this class of

animal. Since every animal which is showing clinical signs of Johne's disease is irrevocably doomed to an early death, whether controlled by us or not, one feels that the owner should not expect compensation if we insist on immediate slaughter and so protect him from a heavier infection on his farm. To pay compensation for clinical cases of Johne's disease would be merely to put a premium on this class of "screw" cattle, just as, one is afraid, the compensation under the Tuberculosis Order has put a premium on that class of waster. By scheduling clinical cases of Johne's disease we should at least be making some effort to minimise the spread of the disease, and later, when we do feel that we have a sufficiently reliable test for the diagnosis of pre-clinical cases, we can extend any regulations made so as to include the latter cases also.

It has been suggested in some quarters that the Tuberculosis Order might be extended so as to embrace cases of Johne's disease also. Such a suggestion appears to me to be highly unscientific and unworthy of our profession. To lump the two diseases together under one Order would be to lay ourselves open to the ridicule both of our sister profession and of livestock owners in general. One admits that differential diagnosis may at times be difficult, but it is far better to make an occasional mistake in diagnosis than to give up the effort and pursue the "shot-gun" method of grouping two quite separate diseases under one Order. Johne's disease, if it is to be scheduled, must be approached entirely on its own merit and as an entity apart from all other diseases of animals.

I beg to propose that we pass a resolution to the following effect:—

> That it is highly advisable that clinical cases of Johne's disease be brought under the control of the Minister of Agriculture and Fisheries, and that he be urged to bring forward an Order
>
> (*a*) making all clinical cases of the disease notifiable,
>
> (*b*) enforcing the immediate slaughter of all such cases, the slaughter to be carried out on the owner's behalf and without compensation, but under the supervision of local authorities, and
>
> (*c*) prohibiting the sale (either by public auction or privately) of such cases and prohibiting the exposure or travelling of such animals on any premises not in the occupation of the owner.

[Mr. Burrow's resolution was not seconded.]

Such a scheme would, one admits, never succeed in eradicating the disease, but it would be a start in the right direction and a basis for future extension on control of the disease. Finally, we must remember that if we as a profession do not offer any suggestion, we may find before long that some other profession, or even some body of laymen, may come along with a scheme perhaps even more imperfect than our own and may usurp our rights as advisors on matters of animal health.

Mr. Matthews moved "That the Secretary be instructed to reply to the communication from the N.V.M.A., stating that in the absence of a definition as to what is meant by 'scheduled,' we regret we are unable to support the motion. We are very conscious, however, of the losses from Johne's and other diseases, and the Association feels that it is time that a proper enquiry into herd losses be instituted by the Ministry of Agriculture, and the Ministry be approached to that effect."

Mr. Holroyd seconded, and the proposition was carried unanimously.

# LIGHTNING STROKE

## LANCASHIRE V.M.A. SCHEME OF ENQUIRY

At a meeting of the Lancashire Division, N.V.M.A., the proceedings of which are recorded elsewhere in this issue, the following report of a special committee of the Division appointed to consider a scheme of procedure in connection with lightning stroke was approved for forwarding to the National Veterinary Medical Association.

### Lightning Stroke

A discussion on the above subject took place at a meeting of the Lancashire Veterinary Medical Association held in Manchester on October 23rd, 1931. It was then made evident how important it is to use the greatest possible care in dealing with these cases. The practitioner must do his best for the owner in an exacting examination. The veterinary surgeon for an insurance company has simply to find out the truth and advise accordingly so that his clients may settle, compromise, or refuse to admit liability. It is not expected of him to take sides.

A large number of diseases were shown at the meeting to have been mistaken at various times, in the dead animal at least, for lightning stroke. Although it was admitted that the difficulties may be great, it was felt that the margin is often too wide to be attributed to pure error in diagnosis. Nevertheless, some offices without livestock branches are unable to appreciate how great our difficulties may be.

The accompanying scheme has been drawn up in the hope that it will be useful in collecting data upon which to base a sound diagnosis. One of the most recent accounts of "Lightning and Electric Shock in Animals," is by S. J. Motton, F.R.C.V.S., in the Proceedings of the Annual Congress of the N.V.M.A. at Torquay, published in the *Veterinary Record* for 1927.

It is not professed that the scheme is complete, and the numbered space reservations therein are made for the purpose of enabling the addition of further details to suit circumstances.

**Enquiry into Alleged Lightning Stroke Injury**

1.—Name of owner of animals.
2.—Full address and telephone number.
3.—Date and time of visit.
4.—Species of animals; breeds; ages; sexes and descriptions.
5.—Number in field; number injured; not injured; alive and dead.
6.—Approximate value of each before the accident.
7.—Condition when last seen alive and by whom.
8.—Date and time when injury was discovered and by whom.
9.—Place; position; ditch; trees; cables or wire.

10.—Verification of lightning. By police or local meteorologists. Date; time; distance; severity.
11.—Have *any trees been struck*? (Poplar; oak; elm; conifer; walnut; ash; and beech, in order given.)*
12.—Are there *any fish dead* in nearby streams?*
13.—Are there any poisons or poisonous plants present? (Pastures; streams; hedges; trees.)
14.—Have any of the animals been recently clipped, shorn, dipped or dressed?
15.—Have *any buildings been struck*?* (Susceptible in proportion to height, size, construction, etc.)
16.—Are any live animals showing *nervous* or other *symptoms*?*
17.—Sub-soil. (Loam; sand; clay; marl; or chalk.)
18.—Name of insurance company; address; number and date of policy.
19.—Name of agent; address and telephone number.
20.
21.
22.—(*a*) Exclude anthrax and other septicæmias by microscope.
(*b*) Look for subcutaneous emphysema (blackquarter).
(*c*) State of putrefaction. (*May set in very early.*)*
23.—What was the state of the natural orifices?
24.—(*a*) Degree of *rigor mortis*. (*Slight and fleeting.*)*
(*b*) State of muscles of jaw. (? lockjaw.)
25.—Are there any wounds? (*As if caused by blunt object, with dark or bluish black flesh.*)*
26.—Exclude actinobacillosis of skin.
27.—Is there *any singeing or smell of burnt hair*? (90 per cent. of cases said to have it ? malicious.)*
28.—Are there any fractures or dislocations? (Spine; neck; limbs.)
29.—What is the body temperature? (*Elevated for some hours after death.*)*
30.
31.
32.—Notify insurance company when and where. (Never destroy carcass—if possible, get a colleague to be present.)
33.—Give the state of the carcass with regard to nourishment.
34.—Are there *any subcutaneous hæmorrhages without bruising and dark blood*?*
35.—State the condition of the digestive apparatus: mouth and œsophagus (choking), stomachs (rupture and poisons), small intestine, large intestine, liver (amyloid), spleen, kidney—hæmorrhage. If in doubt save material for analysis.
36.—Describe the state of the respiratory apparatus: trachea (asphyxia), lungs, pleura, heart, *right side full, left empty, and petechiæ in last three.**
37.—Are the brain and its vessels normal?
38.—Exclude pregnancy or parturition.
39.—Is there any intercurrent disease such as tuberculosis, liver fluke, or parasitic conditions?
40.—Was the animal stampeded into fatal injury?
41.—What amount will the carcass realise?
42.
43.

## Remarks

With definite signs, and history, certification presents little difficulty.

With a negative investigation, doubtful reports of lightning at a distance, and the presence of intercurrent disease or a state of pregnancy, certification is difficult and it is only possible to state that death does not appear to have been due to the lesions present and that it might have been due to return shock.

Where there has been a storm and the findings are negative, one can perhaps go a little further and say "death might well have been due to lightning."

Complete notes should be kept with copies of certificates.

*Affirmative answers are suggestive of lightning-stroke.

## Suggested Certificate

Address.

Date.

I hereby certify that I have to-day examined the animals described below belonging to

of and I am satisfied that death was not due to lightning-stroke.
was
might well have been
might have been

| Species. | Breed. | Name. | Colour. | Sex. | Height. | Market value. | Remarks. |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

In printed copies of the above, it is advised that a horizontal line should be drawn under each question and that a vertical line should be drawn down the page to the right of the questionnaire; this would leave a space in which the appropriate answer to each question could be written.

There seems to be some peculiar value in bran which chemical analysis alone does not show, and its properties are held to be somewhat akin to fresh milk for inducing thriving condition and bloom. Confirmation of this opinion comes from the Rowett Research Institute at Aberdeen, where, on the experimental farm, feeding tests with young Aberdeen-Angus cross cattle have been carried out to compare bran and linseed cake.—*The Times.*

A large number of the premium bulls which have completed their three years' service under the Live Stock Scheme have been sold for future use instead of being slaughtered.

Farmers have taken advantage of the chance offered them to obtain good sires, for there is a feeling that in the future young pedigree bulls are going to be very dear and scarce owing to the great demand from Russia for well-bred young animals.

# Clinical Communications

## A FEW NOTES ON RECENT LOSSES IN CATTLE

R. WOOFF, M.R.C.V.S.,
Chief Veterinary Officer, Herefordshire

During the past autumn and winter there have been an increased number of cattle which have suddenly died and have thus been reported to me for inspection as being cases of suspected anthrax. There was such a similarity in the history of these cases that it became essential to study the cause and, if possible, to find a means of prevention.

On making enquiries, I found that this county was not alone in this trouble and that other counties were similarly affected. The diagnosis in very many cases was one of "meningitis," but that diagnosis appeared to me to be one of the symptoms without determining its etiology. It was not an uncommon thing to go on to a farm where two and sometimes three animals were lying dead at one time.

A striking point was that the majority of cases were in cows that had passed their first calving and that no case had been seen in heifers or males.

The symptoms seem to vary according to the period at which they appear. Generally the animal is affected at any time between parturition and the first or second period of œstrum or season, but cases have been seen at a later period, such as weaning time or again later when the cow is preparing for parturition.

In the *Acute* form, the animal is usually found in a prostrated condition, unable to rise, with hurried respiration, temperature varying up to 107°—the head, neck, and legs all held out stiff, with the jaws fixed. Any movement close to the animal will cause paroxysms. Death occurs in a short while.

In the *Sub-acute* form, the animal may be off its food for a few hours or show some nervous symptoms such as being unsteady in its gait. It may resume feeding and be apparently well, but later it will stop feeding, does not chew its cud, has an anxious expression in its eye and if excited, will hold its head up and show spasmodic contraction of the muscles, especially of the head and eyes. The respiration becomes hurried, temperature rises and the animal will go down apparently in a fit. If treatment is not applied immediately, it will soon die. If treatment can be given before the temperature rises to 105° there is every chance of recovery, though some cases may relapse into a semi-paralysed condition for several days.

Although I have been able to grow several bacilli, such as streptococci, staphylococci, and a bacillus resembling *Bacillus welchii*, in different cases, there has not been a definite bacillus running through all the cases. Examination of the blood has revealed a calcium deficiency.

Nowadays cows are expected to produce about four times their natural amount of milk and to breed at any part of the season, even when their natural food, grass, is at its poorest. Also, the conditions which govern mineral absorption are complex. It is a remarkable coincidence that the previous outbreak occurred in 1924-25 which, I believe, was a corresponding period to that which we have had during the past 12 months. This probably has some effect on the vitamin content of foods, thus reducing the mineral absorption.

Then again, the various symptoms and stages can be explained by an examination of the changes which occur in the blood plasma of the pregnant animal. The protein particles of the blood plasma undergo dehydration during the early stages of pregnancy. In the later stages and close to parturition there may be a varying degree of gelato-hydration also. At parturition, or subsequently during the puerperal period, there should be a cyclical swing back to normal dispersion. For some reason not yet explained, the blood plasma at this period may show one of three changes:—

1.—Further dehydration;
2.—Gelato-hydration may become more acute;
3.—Gelation;

giving rise to the toxæmias of parturition and of the puerperium.

Should the blood of a pregnant animal have been subjected to a severe degree of dehydration prior to pregnancy, the added dehydration caused by micro-organisms may cause the protein particles to become hydrated.

In section (2) if the particles are deposited in the brain vessels, then the "meningitis" symptoms, which have been so misleading to some people, are set up. If some particles are deposited in the liver, the nacute yellow atrophy of the liver occurs, which is a common appearance on *post-mortem* examinations in these cases.

There is no doubt, in my view, that milk-post-partum paralysis and this dehydration are varying stages and combinations of a condition of the blood.

*In conclusion.*—A large amount of help and material has been given me by Mr. J. R. Barker, M.R.C.V.S., of Hereford, without which these remarks would not have been possible. We are definitely of the opinion that this condition is due to an acute dehydration in some cases and gelato-hydration of varying degrees in others, aggravated by the repetition of pregnancy, with some sudden change in metabolism, such as happens at the time of calving or œstrus, or weaning or preparation for calving, by the lack of sunshine and extreme wet of last year, with

probably some deficiency of calcium and sugar, thus setting up the various toxæmias of pregnancy, parturition, puerperium or œstrus.

As a preventive measure may I suggest the addition of some approved calcium compound in the food or in the form of iodized calcium licks and probably sugar (in the form of treacle) especially to cows just calving.

Where this has been carried out, further cases have not yet occurred. If several cases have occurred on a farm I should suggest giving the approved mineral compound in the food for a period, so that any deficiency can be made up more quickly, with the licks placed in convenient and accessible places for those animals that need extra. Then the licks can be used alone, as nature soon allows the animal to know what it needs.

The use of treacle is advised because most of the sugar taken in the food exists as a polysaccharide and the digestive juices transform it into the form needed for assimilation.

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## SEPTICÆMIA HÆMORRHAGICA (?) IN CATTLE

J. G. WRIGHT, F.R.C.V.S.

I am writing in reference to the article on the above subject by Professor Gaiger, in your issue of February 20th, criticising the clinical contribution on the above subject by Messrs. Gold and Pratt.

Professor Gaiger points out that he has, on a previous occasion, indicated the fallacy of maintaining that bovine pneumonia in England and hæmorrhagic septicæmia are identical conditions.

I think that his previous communication arose as the result of the publication by Messrs. Tweed and Edington (*Journal of Comparative Pathology and Therapeutics*, 1930) of the result of their enquiry into a contagious disease of cattle in this country which they attributed to a bipolar organism, and described, rightly or wrongly, as "Pneumonia of Bovines due to *Pasteurella boviseptica*."

Professor Gaiger takes exception to the name "Hæmorrhagic Septicæmia," and he has given adequate explanation for so doing.

To my mind, however, this is not the point at issue. What concerns us more is whether or not there occurs in this country a contagious disease of cattle, the most prominent symptom of which is a pneumonia, caused by a bipolar organism. I can find nothing in Professor Gaiger's communications which will help us to solve this problem.

I had the opportunity of enquiring into the outbreak described by Messrs. Gold and Pratt, and as the result of my questioning into the history of the cases formed the opinion that there was definite clinical evidence of spread by contagion. I think that had Messrs. Gold and Pratt described the onset of each case more fully, together with a plan of the cow-houses, this evidence would have been clearer.

At the time of my examination on December 5th, two cows which had been ill for 4-5 days with pneumonia, were approaching death. A third animal, however, standing next to one of these (by name "Skinner's Fame") had developed a high fever the evening before. This animal died a few days later.

The suspected hay had been withheld for six days, and prior to the onset of pyrexia this animal had been normal. Although the "old" bull has been housed in a loose-box, I am definitely of the opinion that he was in-contact.

As the result of my investigation I formed the opinion that the disease from a clinical aspect was the same as that described by Tweed and Edington, and suggested the use of an antiserum in an attempt to check the condition, which was, by this time, assuming serious proportions.

Blood was taken from two animals, one seriously ill, and the other (Skinner's Fame) in which symptoms were of 24 hours' duration. Twenty-four hours later these samples were sewn out on culture medium but remained sterile. A little later a piece of affected lung was forwarded to me by Messrs. Gold and Pratt, which I handed over to my colleague, Professor Hare.

He reported that a bipolar organism was present in large numbers and gave it to me as his considered opinion that, upon the evidence of the cases, the condition was rightly described as hæmorrhagic septicæmia.

Professor Gaiger puts forward two explanations to account for the presence of this organism. In the first, that "bipolar organisms are not uncommonly met with in the blood after death in all kinds of diseases, and are only significant of *post-mortem* changes." A little later, however, he attributes the disease to the hay and explains the presence of the bacillus as follows: "this would account for the digestive disturbances and so lower the tone of the animal's system sufficiently to allow the bipolar organisms normally present in the lung to assume pathogenic properties and set up the patchy pneumonia described in these cases." Considering the fact that Professor Gaiger saw neither the hay nor the cows I think this is an assumption which does not warrant serious consideration. Whilst the hay was of poor quality, I have seen worse; it contained no toxic plants or moulds. It may have been of poor nutritive value, but it was not, in my opinion, capable of killing cattle.

Another point is that the onset of symptoms occurred in one animal as long as six days after this hay had been withheld.

I do not know what Professor Gaiger means to infer by his reference to bracken poisoning. I was not aware that the exact cause of this condition has been satisfactorily settled.

Finally, Professor Gaiger must remember that the authors were recording their clinical observations. There was no suggestion that the record conforms with the postulates of a scientific experiment.

. . . . .

WM. TWEED, M.R.C.V.S., D.V.S.M.

In the *Veterinary Record* of February 20th, Professor Gaiger asks himself "What is Hæmorrhagic Septicæmia?" and gives his answer that "It is the condition which has the synonym barbone." Further, he states "More recently we have had outbreaks of disease in cattle in this country claimed as being hæmorrhagic septicæmia. The writer in the *Veterinary Record* of February 14th, 1931, showed the fallacy of maintaining that bovine pneumonia in Britain and hæmorrhagic septicæmia (barbone) abroad are identical conditions."

These statements refer to an article published on Pneumonia of Bovines due to *Pasteurella boviseptica* in the *Journal of Comparative Pathology and Therapeutics* (Tweed and Edington, 1930) where I stated that the outbreaks met with in this locality were the pectoral form of hæmorrhagic septicæmia. I hoped that Professor Gaiger would discover that no mention had been made of hæmorrhagic septicæmia (barbone) in the paper.

A further contribution on the subject appeared in the *Veterinary Record* of February 13th, 1932, where I pointed out that the organism responsible for outbreaks in this country had been shown by Edington (1930) to be the same organism as described in America by Jones (1921) as Type I, *Pasteurella boviseptica.*

I am in agreement with Professor Gaiger that the barbone disease and that met with in this country for the present should not be confused as one and the same disease, *i.e.*, barbone. I have termed the latter *Pasteurella boviseptica, Pasteurella pneumonia, Pasteurella enteritis,* whichever form is met with in an outbreak, in preference to hæmorrhagic septicæmia, the name hitherto applied to diseases caused by *Pasteurella boviseptica.*

Nevertheless, an investigation might profitably be carried out in classifying the various types of this organism, their virulence and the diseases for which they are responsible.

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The Live Stock (Licensing of Bulls) Act is to come into operation in Scotland on August 1st. The Act should stimulate the demand for good crossing bulls.

# ATYPICAL CASE OF DISTEMPER

R. F. WALL, M.R.C.V.S.
Bayswater

It is rather interesting to meet with a case of distemper that does not run the ordinary course, and I think it is worth while reporting one that came to me quite recently.

The subject was a Dalmatian bitch, about 18 months old. Except for two or three fits when she was about four months old she has been in the best of health and condition, and there is no history of cough or diarrhœa. She was vaccinated against distemper at five months old, and 12 months later she was sent to me for the reason that it was believed she had some ear trouble. There was an occasional shake of the head and twitch of the eyelids; the ears were perfectly clean and the bitch apparently in the best of health beyond the symptoms mentioned. The owner was notified that the condition was due to nervous trouble and advised to let her remain under observation.

The twitching of the ears and eyes increased in frequency and force until there was well-marked chorea of the head and neck. During this time, about eight days, she appeared to be quite well and took her food avidly. She then developed a slight cough and her appetite was not quite so good. The temperature rose to 106° F., catarrh was exhibited, the cough became more frequent and diarrhœa ensued; in fact, all the usual symptoms of distemper involving the nervous system were reversed. The mucous membrane of the nose underwent considerable necrosis, and it was over seven weeks before recovery was apparently complete. So far there has been no recurrence of nervous symptoms, and to the best of my knowledge she is perfectly well. The serum used in treatment was supplied by the Institut Serotherapique, Gembloux.

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## SURGICAL MAGGOTS

The Council on pharmacy and chemistry of the American Medical Association have accepted for admission to "New and Non-official Remedies" the prepared fly larvæ of the species *Phormia regina* and *Lucilia sericata.* The eggs, after disinfection in 10 per cent. neutral formaldehyde solution for three minutes, are rinsed several times with sterile water and then transferred to a culture medium of dried hog's liver and nutrient agar. The newly-hatched maggots are tested for micro-organisms, and if sterile are placed in an icebox at 4° C. Surgical maggots are proposed for the treatment of chronic osteomyelitis and other suppurative infections, as it is believed that the maggots clear away devitalised tissue after operation. The wound is filled with maggots, which are allowed to remain for about five days, when they are flushed out with normal saline. The wound is then swabbed, a fresh supply of maggots implanted, and the process repeated during six to ten weeks. It has been found possible to ship the maggots under conditions that retard their growth but retain their viability.—*Pharm. Jour.*

# Abstracts

**[A Preliminary Note on the Intra-neural Injection of Alcohol for the Relief of Chronic Foot-lameness.** Murray, C. A., and Pryer, A. A. *Journ. R.A.V.C.*, Vol. 2, No. 3, May, 1931, p. 139.]

This clinical communication would appear to be that to which Major Dunning referred in his letter published in the *Veterinary Record* of January 30th, 1932, and in which he seeks enlightenment as to the technique of alcohol injection as an alternative to neurectomy, the amount injected and the effect of its introduction in the following respects:—

1.—Does it cause a permanent subcutaneous tumefaction, bringing about nerve absorption by pressure but which might cause interference with free movement or a blemish, or does it cause a fibrosis with degeneration in the nerve itself only?

2.—Does it lead to complete and permanent loss of sensation in the limb below the injection?

3.—How long after injection is the effect produced and when can the horse resume work?

4.—In what way is it more advantageous than neurectomy?

To the majority of these enquiries the communication under notice, brief as it is, supplies remarkably concise answers.

The possible usefulness of the procedure was suggested to the authors by the intra-neural injection of alcohol for the relief of trigeminal neuralgia and similar conditions in the human subject. Following the production of general anæsthesia in a case of chronic foot lameness, both plantar nerves of one forelimb were exposed in turn at the usual site of high plantar neurectomy, freed from connective tissue and supported on a tenaculum.

"By means of a 1 c.c. syringe and a fine platino-iridium-tipped needle, 1 cubic centimetre of 99·5 per cent. alcohol was injected under the neurilemma. After the introduction of 0·6 c.c., the nerve became markedly distended and alcohol commenced to ooze through the nerve sheath. The nerve was then replaced and the wound sutured."

There was rapid anæsthesia of the parts below the site of operation, and this showed no sign of diminution at the time when the case was described—two months later.

The operation was a pronounced success, as lameness, which was severe prior to operation, was almost imperceptible at the date of report, though there remained some thickening and slight tenderness at both sites. Inasmuch as where the intra-neural injection of alcohol acts successfully in the human subject, anæsthesia is reported to persist for from one to two years, the achievement now recorded affords hope that by its application in equine practice the good results of neurectomy may be obtained without any of the undesirable trophic changes.

W. B.

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**[Pedal Ostitis.** Steevenson, G. F. *Journ. R.A.V.C.* Vol. 3, No. 2, February, 1932. Pp. 61-64.]

Comment is made upon the increased frequency during recent years of the appearance of reports of this condition (more correctly termed "Ostitis of the Os Pedis") on R.A.V.C. case records and veterinary history sheets of horses and mules. It is a diagnosis which gives rise to much acute difference of opinion amongst veterinary officers, as to whether or not ostitis of the wings of the os pedis can cause lameness independently of navicular disease. Consideration is given to the affirmative evidence afforded by the examination of a large number of ossa pedes, which revealed that, while in many horses never known to be lame the notch between the basilar and retrossal processes has been converted into a foramen by the formation of a bridge of bone across its posterior border, in many the degree of ostitis attendant upon the formation of new bone, and the amount of the latter, may well be productive of lameness.

The further question is discussed: "If lameness is produced by ostitis of the os pedis is it curable?" Return to structural normality being virtually impossible, the query can only relate to restoration of soundness in action, and here the chances of restoration on the lines associated with the subsidence of inflammation following the formation of a splint are militated against by the presence of the unyielding horny box in which the os pedis and surrounding soft structures are enclosed. "The chances of an animal becoming sound in action depend probably on whether the inflammatory process can be arrested before extensive formation of new bone occurs with its probable sequelæ of damage to the soft tissues, contraction of the heels and other morbid changes in the hoof." Early diagnosis is thus as important as it is difficult, particularly in those cases where there may be no hæmorrhagic staining of the horn, and it is achieved by a process of exclusion.

W. B.

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**[Latent Infection of the Udder and its Awakening: Means for its Detection.** Porcher, Professor. *Recueil de Médecine Vétérinaire.* Vol. cvii, No. 11.]

The paper begins with a quotation from the budget speech of the Prussian Minister of Agriculture delivered in February, 1931, in which it is estimated that the losses from epizootic abortion and from streptococcic mastitis amount for each disease to 250 million gold marks. The association of these diseases in the text leads to the statement that the agent of epizootic

abortion lives and multiplies in the udder without apparent damage while its presence possibly facilitates the establishment there of the streptococcus of mastitis.

In this latent infection no external manifestations are appreciable, but certain circumstances may dispel this torpor and it becomes visible—to retention of milk in the udder is assigned a principal rôle in determining this awakening and the setting up of mastitis.

With regard to the frequency of mastitis in milking cows, 60 per cent. is given as the estimate of several authorities: the truly healthy udder is the exception, the infected is almost the rule.

E. Bourgeois is quoted as stating that only 9 per cent. of milks can be classed as undoubtedly healthy. From an economic viewpoint the harm done by latent infection with very mild forms of mastitis is represented by less quantity and poor quality of the product and from the hygienic aspect, danger of human infection—as in the early stages of tuberculous mastitis.

The study of these benign forms of mastitis is not limited to their microbic aspect; during the last 20 years research has been directed from the chemical, biochemical, physico-chemical and cytological points of view. The limits between the normal udder and that of its pathological infection are difficult or impossible to determine. A quarter may have a tuberculous nodule and yet no tubercle bacilli in the milk; the infection is latent; when nodules coalesce and ulcerate infection is declared.

Diminution of the quantity of milk from a quarter points to latent infection of the gland.

The frequency of udder infection is explained by the soiling of the teats and the passage up its canal of microbes.

On the other hand, infection of internal origin comes by the blood—the virus of foot-and-mouth disease, tubercle bacillus, *Brucella abortus* and *Brucella melitensis* of the goat. In the infection due to the last two microbes the gland functions normally, although 1 c.c. of the affected goat's milk may contain 200,000 bacteria.

Here the latent infection of the cow's udder studied is that due to the presence of the streptococcus. Nottbohm is quoted as stating that the posterior quarters are those most frequently affected by mastitis and that of these the left is the more often involved because cows lie mostly on the left side, so as to avoid pressure on the abdominal organs by the rumen.

The author, in quoting the above opinion, says that it is curious to note that the order of frequency of mammary tubercle is the same as that for streptococcic mammitis, though one is of internal and the other of external origin. What are the flora of latent infection of the udder? Only theoretically can milk be called an aseptic secretion: rarely can one obtain 10 c.c. of truly sterile milk.

The quarters, according to Steck of Berne, are, from the microbial point of view, independent of each other and each has its own flora which persist over several lactation periods. However, oscillations occur—some feeble, only detected in the laboratory; others clinically appreciable.

The flora of latent infection are those of visible infection and may be classed as micrococci, streptococci and the Brucellæ. The micrococci are closely allied to *Staphylococcus pyogenes.* The streptococci found in milk may come from an infected udder or from external contamination.

Milk drawn as aseptically as possible from a seeming normal udder is often found to contain streptococci—that responds to latent infection. Between these streptococci and those ordinarily found in milk, *Strep. lactis acidi.,* there are great differences: reaction of culture, shape, length of chain, pathogenicity, etc.

According to Jensen, every quarter clinically healthy but lodging streptococci is in a condition of chronic mastitis. There is no specific streptococcus of mastitis, but numerous strains—their variability due to the reaction of the medium. An important fact to note is that in latent infection and in subacute mammitis the milk tends to become alkaline due to the presence of carbonic acid and soda and the neutralisation of the acid phosphates.

The most potent cause of the change from latent infection to a declared mastitis is retention of milk in the udder. Retention may occur in drying off—the quarters not being properly stripped; in foot-and-mouth, sore teats prevent thorough emptying; at œstrum when the cow is apt to be restless and kick, and after parturition when, if there is not careful handling, the colostrum is not properly washed out by the milk. Since retention of milk in the udder is apt to change an existing latent infection there into an active one, the remedy is frequent milking. Experiences in South America and elsewhere are quoted to prove that the mammitis which destroys so many udders during outbreaks of foot-and-mouth disease owing to milk retention is best met by frequent milking.

The changes in the composition of the milk give the best indications of the mode of reaction of the udder to infection. Milk may here be regarded from three points of view:—

1.—Its physical and chemical aspect;
2.—Ferments;
3.—Cells.

With regard to its physical and chemical aspect, milk is an emulsion from its fat content, a pseudo solution from the colloidal bodies suspended in it, and a true solution from the

dissolved crystalloids; here the interest is in the principles found in milk deprived of fat.

The components found in milk may be divided into those elaborated by the gland cell: lactose—a sugar; casein—a protein, and citric acid as citrates; phosphoric acid, potassium and calcium. All these are elaborated by the mammary cell and are known as elaborated molecules. Disturbance of function of the mammary cell interferes with the production of the characteristic molecules of the secretion. Another group of molecules found in milk, the non-elaborated molecules (chloride of sodium, albumin, globulin and nitrogen, non-protein) have their percentage raised in mastitis, while that of the elaborated molecules is lowered. The salty taste of milk from an infected udder is due to increased sodium chloride and lessened lactose. The amount of phosphates of potassium in infection is also lowered and as these give acidity to milk it tends to become alkaline. Bad milks are alkaline and the measure of acidity is important in the detection of mastitis. The casein in milk from an infected udder also diminishes. Casein exists in milk as caseinate of calcium plus phosphate of calcium; it is on this body that rennet acts in cheese making; and milk from an infected udder, having its casein altered, yields a faulty curd—one which is soft, fragmentary, detaches itself from the sides of the vessel and floats in a cloudy serum.

The changes in the chemical composition of milk due to latent infection can be appreciated by several methods: decrease in lactose and increase of chlorides by lessened electrical resistance and lower index of refraction of the serum; less phosphates (and hence an approach to alkalinity) by alizarin and spirit.

The ferments of normal milk also are altered by infection. For diagnostic purposes only catalase is considered, the principal source of which is the polynuclear leucocytes. These greatly predominate in the event of infection, so that a higher catalase content results. Catalase has the power of freeing oxygen from oxygenated water and the percentage of oxygen freed can be used to measure the catalase content of milk and to indicate, if it is in excess, the presence of an excessive number of polynuclears and of infection of the gland by streptococci.

To summarise, in latent infection of the udder the milk will have a salty taste, due to diminished lactose and increased chlorides (revealed by lower index of refraction and weak electrical resistance of the serum, ascertainable by simple apparatus); it will tend to be alkaline (due to diminished phosphates, tested for by alizarin); a bad curd is formed with rennet, the casein being low; the catalase index is high, indicating the presence of large numbers of polynuclear leucocytes and of the streptococcus of mammitis (in the absence of tubercle bacilli).

The diagnosis of latent infection of the udder having been made, what advice is the practitioner to give to the owner of a valuable cow? The malady is invisible; one must intervene before it becomes a clinical entity, though the owner may express surprise at our proposal to treat an apparently normal udder which is giving irreproachable milk.

The absence of really efficacious therapeutics adds to the difficulties of the case. Injecting the gland with warm formalin solution (one or two per thousand daily for three or four times) is suggested.

It is mentioned that the Dutch Friesian Society recommends in mammitis (1) milking every hour; (2) immediate injection of milk from the affected quarter; (3) two or three days after, injection of stock vaccine; (4) followed, if necessary, by injection of auto-vaccine.

W. R. D.

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**[Work in the Sphere of Bacillary White Diarrhœa.** Kiessig. *D.T.W.* No. 38. September 19th, 1931. 594.]

The author refers to important statements by Peters and Wollenscheim which indicated that as regards health, egg production and fertility, etc., hens affected with *B. pullorum* had, in their experiments, proved perfectly satisfactory birds. The implications of this statement and its possible effect upon breeders and on the poultry industry in general, prompted the author to carry out controlled experiments with *B. pullorum* positive and *B. pullorum* negative groups of hens. Summaries and tables are given which clearly show that the balance is all in favour of the negative groups. In some cases the author agrees that reacting birds may be satisfactory in egg production and as breeders, but against this it must be remembered that many infected and reacting hens are very poor producers, and it is essential that all reacting birds should be eliminated from the flock. Details are given of birds which had produced normally while negative to the agglutination test, but in the laying periods subsequent to infection their yields showed an enormous drop.

Observations were made on a group of 300 reacting hens. In six months 38 birds died and bacteriological examination showed *B. pullorum* infection in eight cases, and the changes observed in the oviducts of many others were probably due to the same cause. The mere fact that infected birds are sometimes good layers and breeders ought not to be allowed to mitigate against general blood testing as the only method of control, because apart from the loss in eggs, it is the infected hen which spreads the disease (B.W.D.) to other breeders in the shape of infected eggs and day-old chicks.

W. L .S.

# N.V.M.A. Divisional Reports

## ROYAL COUNTIES VETERINARY MEDICAL ASSOCIATION

### ANNUAL MEETING AND DINNER AT READING

The annual general meeting of the Royal Counties Division, N.V.M.A., was held at the George Hotel, Reading, on Friday, January 29th, Major F. J. Taylor, T.D., of Oxford (the President), being in the chair.

There were also present Messrs. A. J. Baxter, H. Bell, J. Bell, Captain R. E. C. Bullen, Captain J. C. Coleman, Mr. I. R. R. Coleman, Captain H. B. Collet, Captain J. A. Craft, Messrs. R. Gregg, E. J. Heather, Captain J. R. Hewer, Major W. H. Kirk, Captain W. L. Little, Messrs. J. W. McIntosh, G. P. Male, Lieut.-Colonel P. J. Simpson, Mr. G. S. Sutton, Major R. C. Tennant, Colonel G. K. Walker, Major R. F. Wall, Messrs. J. Willett, R. A. Willett, Professor G. H. Wooldridge. *Visitors.*—Dr. Fred Bullock, Professor Hobday and Lieut.-Colonel H. Greenfield.

At Dinner the foregoing were joined by Mr. Macintosh, from the Dairy Research Institute at Shinfield; Dr. F. C. Minett (Camden Town); Mr. J. A. Craft; Mr. Frank Poulton (President of the Reading Rotary Club); and Mr. DeGaris.

Apologies for absence were received from Major W. K. Barron, Messrs. J. R. Baxter, C. H. Ducksbury, Major A. C. Duncan, Major G. W. Dunkin, Messrs. E. J. Gill, C. W. Howard, C. P. Inglis, T. W. Lepper, J. McKeriie, Major-General Sir John Moore, Major E. E. Seldon, Mr. S. H. Slocock, Major S. L. Slocock, Lieut.-Colonel P. W. Dayer-Smith, Messrs. F. T. Trewin, F. W. Willett, Captain E. C. Winter, Dr. P. P. Laidlaw, Major H. G. Lepper. The following guests also intimated, with regret, their inability to attend the Dinner:—Dr. G. C. Williams (M.O.H., Public Health Department, Oxford), Mr. C. S. Johnson (Reading) and Mr. H. C. Shingler, M.R.C.V.S., Banbury.

The President, at the commencement, wished those present "a very happy New Year, and all the prosperity that is possible."

The minutes of the previous meeting were taken as read, and after amendment in one particular, approved.

The President, in announcing that the Secretary would read the rules if desired, observed that they required revision, and that a sub-committee had done a certain amount of work on the subject, but their work was not quite complete. It had been decided in Council that the rules should be handed over to that sub-committee, who would deal with them and report to the next meeting. They would present a revised set of rules, the present ones being very old and requiring a lot of amendment.

This course was agreed to.

#### Correspondence

The Secretary read the apologies for absence given above—some for the meeting and others for the dinner which was to follow. He also read letters from Major Dunkin, and Mr. W. Howard, of Dorking.

It was agreed to send to Mr. Howard a letter of commiseration with him in his accident, expressing the members' pleasure that he was now on the way to recovery and the hope that in the immediate future he would be able to attend their meetings.

*Treatment of Sick Animals of Poor Persons.*—The Secretary read letters from the National Veterinary Medical Association referring to this subject, and considerable discussion followed, but no resolution was passed.

*National Horse Association.*—The Secretary next read a letter from the National Horse Association.

Mr. J. W. McIntosh said that, as a member of that Association, he could assure them that they were doing a very great deal to stimulate the maintenance of their good friend the horse in this country, and they were a strong opposition to that powerful body, the motor business. The National Horse Association's membership was increasing every day, and the veterinary profession throughout the country should give them every encouragement by subscribing or becoming members of that organisation. He moved that they subscribe.

Major Wall, in seconding, made reference to the good work accomplished by the Association.

The proposition was carried.

Major Kirk informed the meeting that the Association had sent a copy of their year book, which was selling at one shilling. It might be that there were some members there who had not seen the book, the sale of which would be to the advantage of the Association, and some members might like to buy one from the Association.

*Reporting.*—The Secretary spoke to the receipt of a communication from the N.V.M.A., the substance of which was that the Council of that body had decided that Mr. Brown, the Editorial Representative, should not attend any more Divisional meetings for a period of six months, and requesting the Division to make other arrangements for reporting their meetings.

The President desired to say how very much they missed Mr. Brown, in his not being able to report their meetings, and how very valuable he considered his services had been, not only to that Division, but to others. He thought it was a great pity he was to attend no more meetings.

*Victoria Veterinary Benevolent Fund.*—The Secretary read a letter from the Victoria Veterinary Benevolent Fund, acknowledging the Division's contribution.

*Resignations.*—The Secretary reported the resignation of Mr. A. J. Beeson from membership, as he had left the district.

Mr. Male stated that he had received a letter from Mr. Pauer resigning membership, he having retired from practice.

The President remarked: "I am quite sure we are all very sorry to receive the resignation of Mr. Pauer. He is an old friend of mine, and of nearly everyone else here. I nearly bought his practice on one occasion, and I sometimes regret that I did not do so. I congratulate Colonel Greenfield on having done so; I am pleased to see him here to-night, and I wish him luck."

## AUDITOR'S REPORT AND BALANCE SHEET

The Auditor's report and balance sheet were next presented.

Mr. J. Willett said that as auditor, he had much pleasure in proposing the acceptance of that report, and at the same time they could congratulate themselves on their strong financial position. He doubted whether in the whole history of the Society they had been in a stronger position than they were in that day. He should like to congratulate their retiring Treasurer, and to thank him for all the work he had done in getting the money in, and in bringing in such a successful balance sheet as was before them.

Mr. J. W. McIntosh seconded.

The President stated that it was a very satisfactory balance sheet, and he was sure they were very pleased about it. Was there any money left on deposit that should be invested to greater advantage?

Mr. G. P. Male replied: "According to your instructions I invested £50 this year in War Loan, making up £100 in all. There is £22 7s. 8d. on deposit, and the balance in the bank is £7 11s. 5d. I do not think just at the moment that any more money needs to be invested, until perhaps we get a little more. I have had the pleasure of handing over to-day the books and the chattels to my successor. I should like to think that you will all support him as you did me during the 22 years I have been Treasurer. I expect you have "blessed" me many times when I have asked for money, but I have never yet had any other than very kind letters in reply to all my demands for payment. I hope you will treat my successor in the same way. In regard to the remarks of Mr. Willett, practically all the work has been done by my good wife, and any thanks due are due to her."

The President: "I feel we are under a great debt of gratitude to Mr. Male for his work over many years. At the last meeting I did not think he was at all adequately thanked for all he has done. Now he has let us into the secret of the whole thing, I will take the opportunity of proposing from the chair a very hearty vote of thanks to Mrs. Male for what she has done in the matter." (Applause.)

The balance-sheet was then passed.

*Nominations for membership.*—Nominations were next received for membership, the President announcing that there were five as against two resignations.

## HONORARY ASSOCIATESHIP

The President announced: "The next item on the agenda is a very pleasant one to us all, the elections to honorary associateship."

Colonel Simpson: "I have very great pleasure indeed in moving the election to honorary associateship of the Association of a very distinguished member of the profession, Professor Hobday. It is impossible really to start talking about his achievements. If one started one would never finish, they are so numerous. The honour that we give is the only honour this Association is able to offer a distinguished member of the profession, and I am sure we all offer it with our sincerest good wishes. If Professor Hobday will accept the honour offered to him, I feel certain we shall all realise that this Association has been the honoured party."

Mr. G. P. Male seconded, and Professor F. T. G. Hobday was duly elected.

Mr. Male, in moving the election of Professor G. H. Wooldridge to honorary associateship, said: "It needs no words of mine to recommend this nomination. We have all known Professor Wooldridge for a great many years. He has rendered distinguished service to this Association and to the veterinary profession, and is a very old member. There are very few honorary associates of this Association, and if Professor Wooldridge will accept this honour I am sure we shall all be very grateful to him and welcome him as an honorary associate."

Mr. J. Willett seconded, and the proposal was agreed to.

The President now rose to say: "I cannot allow this occasion to pass without embracing the opportunity of congratulating my old friends, Professor Hobday and Professor Wooldridge, on the honour they have received from this Division. I have known both for longer than I care to specify. I was a student under them 35 years ago, and their works are too well-known in the profession, from the literary point of view and in many other spheres of life in the veterinary world, for me to go into them. Their everyday life amongst the students and the splendid example they set them in their work and in many other ways, make both of these learned gentlemen an enormous asset to this Division of which they are honorary associates, and to the whole profession."

Professor Hobday replied: "I wish to say how very much I appreciate this great honour you have done me in electing me an honorary associate of the Association. It is one of the Associa-

tions of which I have been a member of for many years, and I know it to be one of the live wires of the National Association. I was not aware that this was going to be brought up to-day, and it is a little embarrassing to be called on to speak at a moment's notice. I think the better plan for me, after saying that I do appreciate the honour very much, is to do as one does in an after-dinner speech, and to leave it to my colleague who is following me to make the longer response."

Professor Wooldridge: "I too wish to thank you very sincerely for the honour you have conferred on me. I cannot say how deeply I appreciate it, coming as it does from a number of you gentlemen with whom I have worked so long and so amicably. I have received nothing at any time but help and encouragement in the work I have undertaken, and I hope I have been able to give some of you some help. Professor Hobday stated that he was going to leave me to make a long speech, but I refuse to be left. I cannot at the present moment say more than how sincerely I appreciate the honour which you have done me."

*Election to membership.*—Mr. Paul Crosfield was due to be proposed for membership by Mr. E. Wilkinson, but the latter was not present.

Professor Wooldridge said that he knew Mr. Crosfield very well indeed and if it was necessary for anyone to speak on his behalf he was very pleased to do so. Mr. Crosfield would be a very welcome member of their Association, and he thought they might hear more of him in later years.

Mr. G. P. Male seconded, the resolution being carried.

## CONSTITUTION OF DIVISIONAL COUNCIL

Mr. J. W. McIntosh moved the following resolution:—"That the two members having the longest service on the Council of the Division shall retire annually." In doing so, Mr. McIntosh said that he thought that it was very desirable, because it would give the younger members an opportunity of coming along and taking their places in the executive control of the Division. The matter was considered by the Council at the previous meeting, and he thought all that it was necessary for him to do was to move the resolution and leave it to the meeting.

Colonel Simpson expressed his willingness to second provided the mover of the resolution would allow an addition to it. The resolution as it stood at present did not take them anywhere, as every member of the Council retired annually. He thought Mr. McIntosh's object would be reached if the words "and not be eligible for re-election for a period of two years" were added. Under the present wording of the resolution, it merely meant, as had always been the case, that the whole of the Council retired, and the two with the longest service naturally retired with them, and were eligible for re-election.

Mr. McIntosh: "If the meeting will accept the addition suggested, I think the object which I desire will be attained."

The resolution, as amended, was then carried.

## MORBID SPECIMENS AND CASES OF INTEREST

Mr. Coleman exhibited two specimens, the first of which, he said, was not of much importance and which he came across in a butcher's shop. A lamb of about eight months was killed. Nothing had been noticed during life, and it was killed in the ordinary way, but when the butcher went to break the neck (as they usually did) he found that it broke at the second joint. On cutting it up he found ankylosis between the occiput and the atlas.

The other specimen was, he thought, of real interest. During his practice he had met with a large number of cases of wounds which had been very tardy in healing. Upon further investigation he had found foreign substances—which it had not been previously possible to find—perhaps a piece of bone splintered off. The history of the present case was as follows:—A light draft horse in the Army was under treatment in hospital and other places for about 18 months. It was kicked on the outside of the hock and had a wound which would not heal. The wound was above the hock, on the lower end of the tibia, and there was considerable swelling of about ten inches in diameter. Ultimately the horse was cast. It came into his neighbourhood—whether treated by anyone locally he did not know. He was ultimately called in to see it. He had to probe about until he got down to the bone, when he found something loose, and he recommended cutting down on it. This was not allowed, however, and the horse was destroyed. He then found a sequestrum in the centre of the honeycomb deposit. There was no affection of the joint. The horse got very stiff but did not walk lame, and it was about two years after the injury that it was killed.

Major Kirk recounted a case of ankylosis in the fore-leg of a cat. He was called to attend this cat about 12 months ago, when the lady owner said it was lame. He examined it very carefully, but could not find the slightest cause for lameness, and came to the conclusion that it was a strained ligament or muscle, and told the owner to keep the cat quiet. He did not hear any more until about three months afterwards, when the owner told him that the cat had never been sound. He examined it again and then could not find anything wrong with it. He suggested that he had better have the cat at his surgery, where he X-rayed the leg, but there was nothing in the photograph to show him why the cat was lame. Last week the owner told him that the cat had gone lame on the other fore-

leg, and it had the appearance of a man with arthritis. He told her that he had come to the conclusion that the cat had got rheumatic arthritis. He X-rayed it before he destroyed the animal, and then he dissected the body. There was nothing at all wrong with the heart, but there were arthritic deposits on the last three ribs. Never in the whole of his career before had he seen rheumatic arthritis in a cat. He was assuming that it was arthritis—he did not think it was tuberculosis, because there were no signs of this disease in the cat. The shoulder joint was absolutely ankylosed, and there was a tremendous lump on the fore-leg.

Last Sunday a veterinary surgeon rang him up, and wanted an X-ray taken of a greyhound's foot. It was a good racing greyhound. The owner went with him and showed him the dog. The history was that it had been lame for a month, and that they had not been able to discover any cause for the lameness. On his (Major Kirk's) examining the foot it was just discernible that one pad was larger than the other. He wondered if one of the digital bones was fractured, but all the bones were absolutely perfect. Only by looking at the X-ray photograph very carefully could two small spots be seen in the substance of the pad. He did not think those could be thorns showing on the plate, but there were undoubtedly two spots there. The photographs were taken on two different films, so that it was not a film defect. The dog showed tenderness there. The owner went home and put the foot into continuous chemical poultices. They had rung him up and told him that the dog was now walking on the limb, but he had advised the veterinary surgeon to incise down and get those two things out.

Mr. Hewer reported a recent and interesting case of a horse which the owner had been treating himself, and which had been lame off and on for about a month. The latter thought it was a bruised foot. There was a suspicion of an overreach there, with a little discharge. He (Mr. Hewer) cut down on to it, and then squeezed it, when something about the size of a piece of lead pencil came out; it was like squeezing material out of a tube of tooth paste. He found it to be a strong blackthorn which must have been embedded there for about a month. He had another case which he thought was very unusual. He was passing the stomach tube: it seemed to be going down perfectly all right, and he had got about enough tube passed for it to have arrived at the middle of the neck. The groom holding the horse said the tube was coming out of the horse's mouth, and they could distinctly see the end of the tube in the mouth. He got hold of the other end and gradually pulled it out. Nothing happened, and they passed it again, the second time quite easily.

Major Kirk exhibited an appliance, saying that he thought it might be a matter of interest for those practitioners who had a great deal of feline and canine practice. The appliance in question was a handy little clipper, which fits into the electric light. It was a very silent machine, and it clipped beautifully; moreover, it was a 40-watt apparatus, so that the current consumption was practically nil. One could clip with it as long as one liked: it did not get hot. He had asked the manufacturers to make him a special bottom blade, so that one could clip a dog and leave a bit of coat, and they were now making it for him. They had had two attempts, which had been failures, but they were still working on it. The cost of the machine was £5 5s., and it was made by Stuart's.

Mr. Hewer remarked that he had seen the clippers used on race horses and they clipped them very nicely.

Mr. R. A. Willett stated that two questions had been put to him quite recently, both of which rather "tied him up." At the last Central Division meeting the question was discussed as to whether Johne's disease should be a notifiable disease. An enlightened farmer—he did not know from where he got his information—was very interested in the subject and questioned him rather lengthily upon it. The farmer ended his argument by asking him what was the effect on human beings of feeding them with flesh of animals suffering with Johne's disease. He said off-handedly that people were not fed with that meat at all. The farmer replied that they were, and that he knew a butcher who regularly bought those cows to turn into sausages. To be quite candid, he could not tell him what the effect would be. If anyone could enlighten him, he should be very pleased to go and join battle with the farmer again. Again, a certain farmer had a clean herd, and not so very far away there was a herd affected by contagious abortion. The tainted herd had been reduced very considerably, and the consequence was that the man was not using all the meadows he had rented. The owners of the meadows had approached the farmer with the clean herd asking him whether he would take on those meadows. They were vacated on quarter day in September, and he had offered, provided he (the speaker) thought it fit, to take them on from quarter day, March 25th. He asked him that morning when he would consider those meadows would be clean. The only reply he could think of was that he thought it would be a little dangerous, because we had not had any sharp frosts. He believed frosts had some effect on the bacteria concerned, but there again, if anybody could enlighten him on the length of time pastures were tainted, it would be of very great assistance to him, because contagious abortion was getting worse round their part of the world.

After a short adjournment for tea, Professor Wooldridge gave his views on the matters raised, saying that he was sure they had all been interested in the specimens submitted. First with

regard to Mr. Coleman's case of the bone with the sequestrum—that was of very great interest, and in his experience unique. One frequently saw a sequestrum detached from the surrounding tissues, but as a rule it was free on the outer surface too.

With reference to Major Kirk's cases, the example of the cat's legs again was to him unique. He had seen deformities in cats' legs, but generally the deformity had not involved the whole of the joints of the limbs as in the case shown. He had usually regarded it as being due to some definite physical injury. In that case the distribution of the lesions warranted Major Kirk's view that the condition was, in all probability, rheumatoid arthritis. Coming to the question of the dog's foot and the X-ray exhibiting two black points in the pad, those were probably grit or small flints. Major Kirk, however, made a statement with which he did not quite agree. He said they could not be thorns, because they would not show on the photograph. That did not agree with his experience of X-rays. Thorns, in quite a number of cases, did definitely show as a distinct black shadow. While on that subject, he might perhaps refer to a case he recently had himself, which he thought would have surprised all of them, as it did him. It was the case of a dog that had been sent by a veterinary surgeon who had diagnosed a fracture of the fibula. The owner was not very happy about it, as there was no progress being made. On manipulating the leg one could feel what might have been a piece of bone down the outer side of the thigh, and a crepitus on the top of this. He (the speaker) said it might be a fractured fibula, but he was not satisfied and they decided to have an X-ray. He told his assistant that he personally did not think it was a fractured fibula, but in the presence of the veterinary surgeon's client he was not prepared to say anything different. He informed the client that there was distinct crepitus there that might be due to a fracture, but he did not think it was, because the lower end of this rod was so widely declined from the tibia, and if there had been a fracture, it could not have been pulled out at the bottom in the way that it was. The case was complicated by the history that the dog had been running and suddenly cried out when amongst some bushes, and on its coming out, they came to the conclusion that it had been bitten by a rat. There were marks on the leg in this position. He further asked the owner if there had not been a distinct wound there, and she said they had not seen one. He said his opinion was that, although it might be a fracture, there was a foreign body there, such as a piece of wood. There was a very distinct rod in the position in which he had manipulated it: the lower end was truncated, just like the lower end of a lead pencil. He was certain that, with that shape, it could not be bone, and he told the owner that he suspected a piece of wood. This was all shown in the X-ray photograph. He injected cocaine and drew the body out. It was about two inches long and about a third-of-an-inch in diameter. To his surprise it was a rod of glass. He did not know if any of them would have expected to see glass showing on an X-ray of a dog's leg. The suggestion he had to make with regard to glass showing up was that it was probably old glass, lead glass, and it was the lead in the glass that was responsible for showing it in the picture. The owner told him that that brought to her mind that they had an old glass prism chandelier taken down, which was lying in the store-house, where the dog had been ratting. Examining the rod again, however, he found it was not straight and clean cut as a true prism would be: he thought a bit had been split off it. He proposed to get that glass tested to see if there was lead present, and to get other photographs taken of some soda glass that did not contain lead. That was just a side issue, to show that many things one would not suspect seeing were shown up, whilst bodies one would expect to show clearly, as some forms of calculi, failed to be reproduced in the picture.

Concerning Mr. Willett's question with regard to the flesh of animals affected with Johne's disease, so far as their knowledge went at present, there was no ill effect likely to follow the consumption of flesh of cattle infected with Johne's disease. The reason for condemnation of the carcass was primarily the degree of emaciation and malnutrition. Whilst there could be no objection from the point of view of danger (assuming that the cow was slaughtered whilst with good vitality) it could not, on those other grounds, be recommended. As to the length of time that pastures might be infected after contagious abortion, there had been some work done on that, and one hesitated, because of the remarkable nature of the conclusions drawn, to act upon the results for the moment. They were to the effect that the abortion bacillus does not live longer than a fortnight in pasture. When he was consulted on such matters, he always recommended the same period of vacancy of the pasture that he recommended with regard to the time when cattle should be kept before service after vaccination—not less than three months. He thought it was a wise precaution. Safety could be further assured, moreover, if the pasture was repeatedly chain-harrowed, so as to expose it to the effect of the air and daylight—sunlight if possible, but daylight at all events. That had a much greater effect in destroying organisms than was the case with cold temperatures provided by frost.

Professor Hobday described the specimen shown by Mr. Coleman as being one of the finest he had ever seen: they had not a good one in their museum. The cat's case was, he thought,

also an exceptional one. Major Hewer mentioned a case in which the stomach tube had returned: he had seen it, but the stomach tube was old and supple. He should never forget the feeling of surprise that came over them when they were watching this.

Major Hewer: "It was an old tube."

Professor Hobday, continuing, said that they tried to do it again, but did not succeed. With regard to thorns in a horse's leg, he remembered a case at Bicester. For a couple of years the horse went out hunting, but always the next day it would be terribly lame. They were just giving the case up when suddenly a black spot appeared. He cut down on to it and took out a blackthorn, a little over an inch in length. It had been pressing on the nerve at times during progression. The horse afterwards went quite sound.

Captain Collett cited the case of a dog brought to him with a big swelling on the shoulder. There were no signs of any external wounds, and the advice given was simply to foment the shoulder. He did not see the dog until three or four months afterwards, when it was brought back, and it was pointed out to him that there was some sort of foreign body there. He incised down to it, and found a thorn about one-and-a-half inches long. The owner told him that the dog had been running through a hedge and just gave a yelp.

Colonel Simpson moved a hearty vote of thanks to those who "bring down specimens and propound problems." Speaking as one "perhaps rather closely connected with the *Veterinary Record*," he commented that there still appeared to be quite a plethora of those interesting cases being met with by members of the National Association. Might he make an appeal to members, when they came across those interesting cases, to try and put them together and send them up for the *Record*? The *Record* did suffer from a paucity of good clinical articles.

Professor Hobday seconded the vote of thanks, which was passed.

*Next meeting.*—The next item on the agenda was to fix the place of the next meeting, and in this connection the President said that the following was what was in his mind in regard to the programme for the year. If possible, he wanted to hold the next meeting either at Staines or Guildford. The summer meeting he should very much like to hold at Whipsnade Zoological Gardens. With that aim in view, he went to Whipsnade last Sunday and had an interview with Captain Beale and tried to induce him to read a paper—possibly on the treatment of animals in confinement—but he declined to read any paper, as he could not find a moment to spare for anything but work for the Zoological Society at the moment. Whipsnade would be a very pleasant place for a summer meeting: the grounds were very pleasant, there was plenty to see, and excellent accommodation for tea, and whatever they decided to do. The next meeting would be the November meeting, and he had had a very charming letter from Professor Hobday, offering the Royal College lecture rooms and operating theatre for the provision of a thoroughly surgical afternoon and evening. He thought it was only right for him publicly to thank Professor Hobday for his kindness and support; he (the President) was confident that they would have a good meeting there. (Hear, hear.)

In reply to the question raised by the Secretary "What are the Royal Counties?"—Mr. G. P. Male said: "I have tried on many occasions to find out what area the Royal Counties Division really covers. I have taken all the counties on this side of London, including Middlesex and Surrey, but as far as members go, I think we should be very pleased to welcome members from any county in the same way that the Central Division has members from all over England. There is no reason why the Royal Counties Division should not have members from other counties."

Colonel Simpson, speaking as "a native, born and bred in Berkshire," said that it had always been usual to look on Berks., Bucks. and Oxon as the Royal Counties, but there were many Royal Counties societies—the Royal Counties Agricultural Society had headquarters in Hampshire and were holding their summer show at Guildford. Bearing in mind what had been said and that they had met at Guildford on two or three occasions and had very good meetings there, he suggested that the place of the next meeting be Guildford.

Mr. Craft seconded, and this was carried.

## PRESIDENT'S ADDRESS

The President (Major Taylor) then delivered his inaugural address, as follows:—

It is my honour and pleasure to address you as your President for the ensuing year, and closely associated with this honour is an irremovable custom, that the President shall deliver his inaugural address at the annual meeting—*vide* rule VIII, made in 1883, when this Division was formed—and it is to be hoped that next year, being its "Jubilee," you will probably elect a really able President who will not penalise but interest you with the wisdom of his remarks, for I doubt my ability to do this. I will make my unavoidable infliction as brief as possible, knowing that I have your sympathy, as you certainly have mine.

Firstly, I thank you for the confidence you have shown in placing me in this high office. I am deeply grateful, and fully realise its responsibilities; these appear very highly magnified to me at the moment, but I am hoping that with your cordial co-operation, my field of vision will appear less complicated by lapse of time. I can only promise you that I will do my utmost to

justify your choice, and maintain the high reputation of this Division which, in my opinion, is one of the most promising 50-year-old colts in the "National" stable.

We have been fortunate in having many illustrious Presidents. As you know, Mr. George A. Lepper, of Aylesbury, was our first President in 1884, and we still have the pleasure of seeing his two sons at our meetings.

Presidents for a few succeeding years, and who were responsible for the sound establishment of the Association were:—

In 1885.—Mr. G. Flanagan, of Reading, was the second President.

In 1886.—Mr. J. F. Simpson, of Maidenhead, whose illustrious son is now President of the "National."

In 1887.—Sir Henry Simpson, of Windsor, graced the chair (his son served in France with me, and I should like to see him again at these meetings).

In 1888.—Mr. J. W. Wragg, of Whitechapel, who was a truly great veterinary surgeon.

In 1889.—Mr. G. A. Drewe, of Abingdon.

In 1890.—Mr. Albert Wheatley, one of our profession's hardest workers, whose successor certainly simulates him, and is an example to us all.

In 1891.—Mr. W. Wilson, Berkhamstead.

You will realise from the names of these illustrious pioneers of our profession how impossible it is for me to pretend to replace them.

I cannot, however, claim to be entirely a novice in this position, as I had the honour of being President of the Midland Counties V.A. in 1907—25 years ago, when I practised in Birmingham, and was young and very enthusiastic. I am afraid I have now lost the former valuable attribute, but I retain the latter and still have the keenest interest in my profession. I thought in those halcyon days of youth I was *really* a veterinary surgeon: I now consider I am merely an infinitesimal portion of one, and I am reminded, in my humility, of a speech by Lord Balfour in which the following quotation occurs:—"I take it, that nothing is 'high' because it is in a high place, and that nothing is 'low' because it is in a low place; this is the lesson taught us in the great book of nature." So that even the high honour of being a President is a doubtful one.

Looking back over a period of forty years continual veterinary practice of various kinds, in various places, including the ghastly experience of the War (when I served in Egypt, Gallipolli, France and Ireland), it seems to me that we are now passing through a transitional stage of our existence as a profession. Horse practice (the branch which certainly attracted me originally to the profession) is almost fading out; many of us handle very few horses nowadays, and we old veterans can see a change of habit and views in our present members, who are rapidly becoming a totally different type from that of 40 years ago. I do not, of course, say this disparagingly, for the old horsey, swearing, far-from-teetotal type, perhaps held our prestige and advancement back a number of years, but the veterinary surgeon of that period was an inevitable necessity, and he did his job to the entire satisfaction of most clients. He was the natural consequence of fateful circumstances, as was the Irishman who fell from a scaffold five storeys high, and when picked up half dead on the pavement, said, "Well, what does it matter, its just fate, and I had to come down for bricks anyhow." The point I am trying to make is that the personality of our profession is not so manifest in the appearance and manners of the individual as hitherto, and no doubt it is all for the "great uplifting" we are aiming at nowadays.

The less said about agriculture in relation to ourselves the better at the moment. I am quite sure that none of us would care to pass through the last five years again. This unprecedented period must come to an end; in fact it must now have arrived at rock bottom, so that by the ordinary sequence of things, there must, and will be a change for the better. The present Government says so!—and all we can do is to "wait and see," and hope that when the farmer comes into his own again, he will think of his poor dependant—the country veterinary surgeon, who has been silently sharing his privations for many years. I say silently, as I have felt very proud of my profession during these adverse times, for there has been little evidence of "squeallers" in our ranks; although many of us have been experiencing the strenuous battle to keep our "ends up" until better times come along—as they undoubtedly will under our new tariff administrations, with a quota on wheat, and possibly on milk, and the hopeful probability that hunting, coursing, polo, and racing will still be allowed to exist, in spite of the powerful activities of some misguided modernists, who consider on the grounds of an occasional, and unavoidable cruelty, that these old British traditional and pluck-producing sports should be suppressed, and replaced possibly by fancy dancing, and ping pong, etc., to the detriment of our future fighting generations.

This brings me to the point as to how we, as a profession, can exclusively "Buy British." I have always held the view that we have allowed ourselves to drift into foreign channels for biological products, and have become too dependent upon outside sources for our supplies of serums, vaccine, and bacteriological products generally. It is a regretable fact that we have to acknowledge that at least six well-known foreign houses surpass the majority of our British houses in the excellence of their productions. This makes one wonder why our home firms do not

"wake up"; or at least try to imitate the successful methods of the palpably un-British competitor in the market, and improve upon these methods by providing remedies with a known, and understandable formula, which would enable us at least to recognise what we are using and the probable result we may expect from our treatment. I hope we are passing through the dense fog of ignorance in serotherapy, the blind use of nostrums, and patent medicines, to a more enlightened period of rational treatment of disease, in which nature will again be allowed her predestined place, without undue interference from ourselves in the curative science of the future, for so many of our members are at the present time neglecting the safe old bridges of treatment, which are simple, well tried, and reliable, to chase a "will o' the wisp," in the hope of meeting the constant public demand for so-called advanced thought or being up to date, which so frequently ends in disappointing results to the practitioner, and the prolonged suffering, or untimely demise, of the patient.

The profession at the moment is beset with many problems to solve; for instance:—

(1) The justification for a five years' course. There would seem to exist a concensus of opinion amongst our educational idealists, that this is the urgently necessary step to bring us into line with other professions. The justifiable reasons for this have not, to my mind, been fully substantiated. I do think, however, that before entering our Colleges undergraduates should have received the best education possible, but five years entirely spent at College, mostly in theoretical study, is a great sacrifice from the early years of one's life, and the inevitable query arises—will the remuneration from practices, appointments, etc., be commensurate with the increased expenditure involved in this new scheme? I personally trust and hope it may, and that it will not decrease the numbers of students in our Colleges.

(2) Are methods of milking, the grading of milk, and distribution of milk, or in fact anything to do with milk after it leaves the cow, really veterinary matters at all? What I think we want to concentrate upon is to "deliver the goods" with a guarantee that milk production and source of supply is sound and free from disease, instead of trespassing upon the medical officer's preserves in expressing opinions which really concern "human food supply" and are essentially the province of sanitary and medical authorities.

The attitude of some of our recent contributors in advocating that pasteurisation of milk is the solution of the problem, has to my mind postdated the scheme for the eradication of tuberculosis many years. Milk that is clean and free from disease should not require pasteurising, which robs the natural article of its most valuable vitamin. It should be our determined and united endeavour to concentrate on the elimination of tuberculosis from our herds, to the exclusion of all other side issues, for the time being. I fail to see that we have made any progress in this direction for fifty years: the half-a-century old statistics still hold good, disgraceful as the fact may appear. There are still 40 per cent. of housed cows suffering from tuberculosis, and liable to yield tuberculous milk at any moment, and at least three per cent. have clinicle tubercle of the udder, and should palpably be at once destroyed, but are frequently never reported owing to insufficient veterinary inspection, and laxity in county administration of the Milk and Dairies Act.

Compulsory frequent inspections, and half-yearly testings by whole-time officials, may be the future solution to the problem—which, if acceptable, should be adopted by the State on a generous compensation basis. I hope they may be an accomplished fact before I end my days in the profession.

(3) Humane slaughtering of animals (impossible as it is to imagine that any method of slaughter can be humane) is certainly a veterinary matter, and definite progress has been made by the introduction of the Slaughter of Animals Bill, 1930, with the clauses of which you are no doubt familiar. The difference of opinion (both veterinary and commercial) on the result of stunning before bleeding, and its effect on the appearance and keeping properties of the meat, forms an interesting problem to both the profession and the trade. I seem to remember a sub-committee being formed to alter the clauses 116-119 of the Public Health Act to give the veterinary officer a similar authority to a M.O.H. in regard to meat inspection and laws relating to same; it would be interesting to hear from this Committee.

(4) Veterinary Advisory Officers are not to be the menace to the profession that was at first imagined. I think if they are properly chosen and controlled by the Ministry of Agriculture they will usefully fill a gap between our profession and the Ministry, by advising on various matters with which we as practitioners have not had the opportunity of making ourselves thoroughly conversant—such as agricultural hygiene, veterinary first-aid (which might probably result in a more timely calling in of the veterinary surgeon) and questions of dietetics of farm stock, a perfect knowledge of which is not always possessed by many practitioners, and the correct interpretation of Orders issued by the various Ministries which are attempting to control agricultural affairs. At present this is almost a lifetime study and requires the day and night application of a very assiduous, experienced and intelligent whole-time official—and this the well-chosen Advisory Officer will undoubtedly have to be, to succeed.

(5) I am hoping that the scheme of "Free Veterinary Treatment for the Poor," if it becomes an accomplished fact, will receive a more suitable title, such as "Cash Veterinary Practice for Small Owners," or a designation that will not make it necessary for us to look upon *any* of our clients as poor people. These are usually very proud people, and the genuinely poor are frequently genuinely honest, and would prefer to pay a little if only to show their gratitude for services rendered. Further comments on this question I am not justified in making until the decision of the College and the "National" has been arrived at after duly considering the findings of the Divisions throughout the country.

(6) Finally, may I mention just one more problem of interest, that is, the present situation in regard to "Johne's disease," the seriousness of which is rapidly becoming a question for urgent legislation—the mortality from this complaint being considerably greater than that from tuberculosis.

At the last meeting of the Central Veterinary Society I proposed the following resolution:—

"That the time has arrived for making Johne's disease a scheduled one, and dealing with advanced clinical cases of this complaint in the same manner, and in conjunction with, the Tuberculosis Order, 1925." These two orders could in this way be worked economically together, and would gradually eliminate chronic cases of both diseases from badly affected herds and so check a great source of general contagion. I hope you will agree with me, gentlemen, that the resolution was necessary and justified, and that it is a step, at least, in the right direction, if only a small one.

I must, in conclusion, apologise for occupying your time and attention so long and unprofitably, and for saying so little in so large a number of words, and thank you for your apparently patient hearing.

Mr. J. W. McIntosh proposed a warm vote of thanks to the President for his excellent address, saying that Major Taylor had given them much food for thought, and that they were looking forward to a very happy year under his chairmanship.

(*To be continued with Report of Annual Dinner.*)

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An investigation carried out upon 53 American children who were regarded by their teachers as being highly nervous, but who showed no signs of malnutrition and obvious physical disorders, indicated that the nervousness was definitely related to hunger. The provision of half-a-pint of milk a day produced a five per cent. improvement and the provision of a food concentrate containing calcium, phosphorus, vitamin D, and lactose, in addition to the milk, produced a 15 per cent. improvement. The investigators suggest that hunger is a powerful producer of restlessness and irritability and they express the hope that schoolboard officers will realise that the provision of school lunches may prevent neurosis in a number of children.

# LANCASHIRE VETERINARY MEDICAL ASSOCIATION*

## OFFICERS ELECTED AT MANCHESTER

A General Meeting of the Lancashire Division, N.V.M.A., was held at the Grand Hotel, Aytoun Street, Manchester, on Wednesday, January 20th, 1932.

The chair was occupied by E. H. Curbishley, Esq., in the absence of the President, and other members present were Messrs. H. Sumner, Junr.; Warwick Fowle, P. M. Lee, A. L. Mullen, C. T. Trevors, G. O. Davies, P. C. Webster, H. T. Matthews, S. H. Gaiger, E. W. Prescott, J. Holroyd, F. Hopkin, R. S. White, F. Leech, C. Hargreaves, J. C. Naylor, D. E. Orr, H. Davies, A. B. Mattinson, G. H. Locke, A. W. Noel Pillers, R. H. Oddy and J. Spruell. Visitors present were Veterinary-Colonel G. Rees-Mogg and Miss M. G. Jordan.

Apologies for unavoidable absence were received from the President (J. O. Powley, Esq.), Messrs. J. H. Wright, R. C. Locke, O. A. Ducksbury, A. H. Leyland, E. J. Burndred, J. Cochrane Dyet, R. Hughes, J. T. Allen, G. Mayall, J. K. Shaw, P. Manuel, W. G. Burndred and Colonel Brittlebank.

The minutes of the last meeting, having been published in the *Veterinary Record*, were taken as read.

*Nomination for Membership.*—Mr. J. G. Foulston, Oldham, was nominated for membership by Mr. G. H. Locke.

## ELECTION OF OFFICE-BEARERS AND COUNCIL

The following were elected for the ensuing year:—

*President.*—Mr. John Spruell.

*Vice-Presidents.*—Mr. J. O. Powley, Professor Gaiger and Mr. E. H. Curbishley.

*Hon. Secretary.*—Mr. A. L. Mullen.

*Hon. Treasurer.*—Mr. A. W. Noel Pillers.

*Auditors.*—Messrs. T. Dobie and J. H. White.

*Council.*—Messrs. S. H. Gaiger, E. H. Curbishley, R. C. Locke, H. T. Matthews, H. Sumner Junr.; T. Wilson, W. G. Burndred, G. O. Davies, F. G. Edwards, C. F. Shawcross, H. H. Aldred and R. H. Oddy.

*Representatives on Council of N.V.M.A.*—Messrs. S. H. Gaiger, W. Woods, J. Spruell and the Hon. Secretary.

*Lightning Stroke.*—Consequent upon a resolution at a previous meeting that a Committee consider a scheme of procedure in connection with lightning stroke, Mr. Noel Pillers, on behalf of the Committee, submitted a list of questions with introductory letter, which were read to the meeting.

Mr. Mattinson proposed, Mr. H. Sumner, Junr., seconded, and it was unanimously resolved, that the introductory letter and questions be recorded

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*Received for publication February 9th.

in full in the minutes, that they be referred to the Council for consideration, and that they be forwarded to the National Veterinary Medical Association.

[The scheme to which reference is made is published elsewhere in this issue of the *Record*. —Ed]

*Contribution to Frederick Smith Memorial Fund.*—It was proposed by Mr. Noel Pillers, seconded by Major Mattinson, and unanimously resolved, that three guineas be subscribed to the Frederick Smith Memorial Fund.

*Contributions to Benevolent Funds.*—Mr. Locke pointed out that there were two benevolent funds in connection with the Veterinary Profession, and he suggested that the Division consider the subject of making a contribution to the funds. It was resolved that the matter be considered by the Council.

*Johne's disease: should it be scheduled?*—This question was next considered, a well-sustained discussion upon it being introduced by Professor Gaiger. [Professor Gaiger's paper and a report of the contributions of others to this discussion are reproduced earlier in this issue.—Ed.]

At the termination of the discussion, a resolution by Mr. Harold Burrow (which was included in a contribution read to the meeting in his absence and which is incorporated in the report of the discussion) failed to find a seconder.

The following resolution, proposed by Mr. Matthews and seconded by Mr. Holroyd, was carried unanimously:—

"That the Secretary be instructed to reply to the communication from the N.V.M.A. stating that in the absence of a definition as to what is meant by 'scheduled,' we regret we are unable to support the motion. We are very conscious, however, of the losses from Johne's and other diseases, and the Association feels that it is time that a proper enquiry into herd losses be instituted by the Ministry of Agriculture, and the Ministry be approached to that effect."

*Any other business.*—Mr. Holroyd moved that, as in previous years, the Lancashire Veterinary Medical Association combine with the Yorkshire Veterinary Medical Association in the issue of an election circular in support of the candidates to the Council of the Royal College of Veterinary Surgeons nominated by the two Divisions.

Mr. Sumner seconded, and the proposition was carried unanimously.

The meeting concluded with a vote of thanks to Mr. Curbishley for his conduct in the chair.

A. L. Mullen, *Hon. Secretary.*

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A butcher of 50 years' experience was fined £20 by the Doncaster West Riding magistrates for removing the carcass of a slaughtered beast before inspection, and also for failing to notify the authority that certain of the animal's organs were unsound.

# IN PARLIAMENT

The following questions and answers have been recorded in the House of Commons recently:—

## RESEARCH COUNCIL

Sir V. Henderson asked the Minister of Agriculture whether an advisory committee for agriculture research has now been set up as recommended by the Committee on National Expenditure last year; and, if so, if he will give the names of the Committee, its terms of reference, and the Vote on which the expenses of the Committee will be borne?

Mr. Baldwin: With regard to the establishment of the Agricultural Research Council, the names of the members of the Council, and the purpose for which it was established, I would refer the hon. and gallant Member to the answer given by Dr. Addison in the House on July 6th last to the then Member for South Shields, Mr. Ede, of which I am sending him a copy. The expenses of the Council will be borne on the Vote for Scientific Investigation.

## MEAT AND MEAT PRODUCTS

Earl Castle Stewart asked the Minister of Agriculture whether he will initiate consultations with the importers of foreign meat with a view to ascertaining the conditions under which it would be possible for them to establish in this country slaughter-houses and factories for the production of meat and meat products derived from the slaughter of home-produced or home-killed animals?

Sir J. Gilmour: Development in this country in connection with slaughter-houses for the production of meat and meat products is a matter which is under consideration. Perhaps my Noble Friend will be good enough to confer with me on his suggestion.

## MILK

Brigadier-General Clifton Brown asked the Minister of Health how many samples of fresh liquid milk were taken during the last three months by the port sanitary authorities of London, Harwich and Newhaven, respectively; and whether any of these liquid milk imports were rejected for not being up to standard requirements in cleanliness and butter fat?

Sir H. Young: The answer to the first part of the question is eight, 49 and 13 respectively. Three samples taken at Harwich and seven taken at Newhaven failed to comply with the bacterial standard laid down, and the importation of milk from the sources of supply of these samples has been discontinued. Ninety-three samples taken at the ports in question were examined by the Government Chemist, and none was reported as deficient in butter fat.

Mr. Glossop asked the Minister of Health the number of prosecutions that have taken place in England during 1929, 1930 and 1931 in connection with milk deficient in fat, together with the number of convictions obtained?

Brigadier-General Brown asked the Minister of Health how many prosecutions for too low a percentage of butter fat under the Milk Adulteration Order came before the courts in 1931; and in how many of these cases were convictions obtained?

Sir H. Young: I regret that I am unable to give all the information asked for, but in 1931 there were 98 prosecutions for the sale of adulterated milk in London, and convictions were obtained in 51 cases, two being still outstanding. The

total number of samples of milk reported as adulterated in England and Wales is roughly 15 times the number so reported in London.

Mr. Glossop: Does not the right hon. Gentleman consider that those figures show a very unsatisfactory state of the law with regard to the milk prosecutions at the present time, and will he not consider introducing legislation in order to have the law amended?

Sir H. Young: No, Sir. I should say that on the whole the figures indicated rather that there was a very efficient administration of the law.

Mr. Glossop: Does not the right hon. Gentleman consider that the very large percentage of prosecutions which failed to secure conviction means almost the permanent branding of those farmers who have been wrongfully accused of watering their milk.

Mr. T. Williams: May I ask the right hon. Gentleman whether, in view of the reply given to Question No. 38, namely, that none of the imported milk was deficient in fat, there is not room for a great deal of improvement, since so many convictions have been registered in this country?

Brigadier-General Brown: Does not this show that the officials of the Ministry of Health are not doing their duty at the ports in inspecting foreign milk?

Sir H. Young: I cannot really accept any of those implications upon the facts given. The facts which have been given appear to show a very efficient administration of the law.

Lord Scone asked the Minister of Health whether he will consider the advisability of reclassifying the various grades of milk produced in this country, and thus end the present position, in which the consumer is led to believe that Grade A milk is the highest class produced, whereas it is in reality only of third-class quality?

Sir H. Young: I will consider the matter in consultation with my right hon. Friend, the Minister of Agriculture and Fisheries. But any re-classification of graded milks on the lines suggested by my Noble Friend would require legislation, and I regret that at present I cannot contemplate the introduction of legislation on this subject.

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## TRANSIT OF ANIMALS (SHIPPING ACCIDENT)

Mr. Hurd asked the Minister of Agriculture what reports he had received from his officials regarding the losses of animal life and suffering during the last voyage of the Steamship "Lady Galway" from Dublin to Preston; if he can state the cause; and what steps he proposes to take to prevent a repetition of the cruelty incident to this Anglo-Irish traffic?

Sir G. Penny: As the answer is long, with my hon. Friend's permission I propose to circulate it in the Official Report.

Mr. Hurd: Can the hon. Gentleman say what steps are to be taken to prevent a repetition of this cruelty to animals?

Sir G. Penny: I would ask the hon. Member to possess his soul in patience and to wait until he gets this reply.

*Following is the answer:—*

My right hon. Friend is informed that the Steamship "Lady Galway," carrying 433 cattle and 469 sheep from Dublin, arrived at the entrance to the Channel leading to Preston dock at 8.30 a.m. on February 19th and shortly afterwards ran into a thick fog. In an endeavour to turn the vessel back for Birkenhead she ran aground and as the tide receded listed to starboard so steeply as to cause the animals in each pen to fall on top of each other towards the pen boards, or the side of the ship. The vessel was in grave danger and lay at this angle for some hours until the incoming tide refloated her. Owing to the steep list of the vessel, little could be done to release the animals from their predicament. None of the fittings gave way and their strength undoubtedly minimised the losses. Of the cattle, 58 were dead on board on arrival and seven were slaughtered on board on account of injuries, 59 of the sheep were landed dead and 13 were washed overboard on account of the vessel's list. This vessel had recently been re-fitted in accordance with the requirements of the Transit of Animals Order of 1927, which governs the conditions under which animals are carried by sea from Ireland and provides every practicable safeguard against avoidable suffering to the animals. It will be appreciated that no regulations can, however, prevent the occurrence of an accident of the kind which befell this vessel.

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## HORSES (IMPORTS)

Mr. Drewe asked the President of the Board of Trade the number of horses imported during 1930 and 1931, respectively, stating the number from Empire sources and foreign countries.

Mr. Runciman: The total number of horses (including ponies) imported into the United Kingdom during the year 1930, consigned from British countries (mostly from the Irish Free State) was 9,856, and from foreign countries 2,022. The corresponding figures for 1931 were 9,981 and 1,973, respectively.

Mr. Drewe: In view of the present condition of the horse-breeding industry in this country, does my right hon. Friend think it is still necessary to import horses from foreign countries?

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## REMOUNTS

Captain P. MacDonald asked the Financial Secretary to the War Office whether any steps are being taken by his Department to ascertain whether it will be possible in future to obtain all the remounts required annually by the British Army from within Great Britain itself?

Mr. Cooper: Owing to uncertainty as to the number of remounts which will be required in future years it is impossible to say whether they will all be obtainable in Great Britain, but the policy of purchasing as many as possible in Great Britain will continue to be pursued.

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## RADIUM (RESEARCH)

Sir E. Graham-Little asked the Minister of Health if he will consider the advisability of promoting the formation of a committee of inquiry to take evidence and to report as to the best methods of forwarding radium research and advising as to the most useful application of the sums of public money subscribed for that purpose and at present in the custody of the National Radium Trust?

Sir H. Young: My hon. Friend will be aware that, as has already been stated in the House on several occasions, the Radium Trust and the Radium Commission are not appointed by the Minister of Health, but are constituted by Royal Charter. It is the duty of the Radium Commission under Article 7 of the Charter to make arrangements for the proper custody, equitable distribution and full use of the radium which may from time to time be the property of the Trust with the object of promoting the treatment of the sick throughout Great Britain and the advancement of knowledge of the best methods of rendering such treatment and of securing due economy in the use of radium for the purposes

of such treatment; to consider proposals submitted to them for the use of the radium for these purposes, and to arrange the supply on loan of the radium or any preparations of it so as to enable proposals approved by them to be carried out. I have, therefore, in the first instance referred my hon. Friend's suggestion to the Radium Commission for their consideration, and I will inform him of their views in due course.

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## SCIENTIFIC AND INDUSTRIAL RESEARCH (MILLION FUND)

Mr. Mander asked the Minister of Health for what specific purpose the Million Fund for the encouragement of co-operative industrial research has been allocated, and how much remains; what contributions in connection therewith have been received from employers; and what further sums are being spent at the present time by his Department for research in other directions?

Mr. Baldwin: As Minister responsible for the Department of Scientific and Industrial Research, I have been asked to reply. The Million Fund for the encouragement of scientific and industrial research was placed exclusively at the disposal of the Department of Scientific and Industrial Research in 1917 to enable it to co-operate with the industries of the country in the foundation and maintenance of approved associations for research. A list of existing industrial research associations established in connection with the scheme, and figures indicating the total grants paid by the Department to each association up to July 31st, 1931, are given in Appendix V to the Department's Annual Report for 1930-31 (Cmd. 3989). The balance of the Million Fund on March 31st, 1931, was £132,196; it is estimated that this figure will be reduced to about £40,000 on March 31st, 1932. The total funds subscribed to research associations by industry up to October 31st, 1931, amounted to approximately £1,300,000. A summary of the expenditure of the Department during the year ended March 31st, 1931 (a net total of £555,691), is given in Appendix IV to the Annual Report for 1930-31.

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## AGRICULTURE (BACON PRODUCTION)

Mr. T. Williams asked the Minister of Agriculture how many breeds of pigs there are in Great Britain; what advice is given by his officials as to which is the most suitable breed for producing pork or bacon; and what steps are being taken to organise the pig breeders in this country and for the setting up of co-operative bacon factories?

The Minister of Agriculture (Sir John Gilmour): There are 13 breeds of pigs in Great Britain. My Department commends the recommendation of the Pig Industry Council as to the use of the fine-boned type of large white as sire for the production of commercial pigs. In reply to the last part of the question, I would refer the hon. Member to the statement of agricultural policy which I made in the House on Thursday last, in which I indicated that the preparation of a scheme for the organisation of the bacon industry will be undertaken forthwith.

Mr. Williams: Can the right hon. Gentleman say to what extent the farmers take note of the advice given, and, further, can he say how many bacon factories are still in existence?

Sir J. Gilmour: I must have notice of that question. I hope that we shall have co-operation between the farmers in a very short time.

# *From* *The Veterinarian*

February, 1832.

## THE APPOINTMENT OF VETERINARY PROFESSORS

To the Editor of "The Veterinarian."

(*Continued from page* 243.)

Now, then, we come to the point. You say "the best test of qualification is the opinion of his *brother-practitioners* and of his pupils, if he have any: their judgment, *and particularly that of the latter, is seldom erroneous.*" Agreed. Would it not be a preferable plan, then, that hospital surgeons and physicians should be created such from their talents and abilities as *lecturers and* teachers, and not become lecturers and teachers because they happen to be hospital surgeons?

What affords a medical man the best chance of succeeding in an election for a hospital surgeoncy? Is it talent, or professional abilities, or acquirements? Or is it interest of every or any other kind but that which is due to the candidate from his professional fitness from the vacant office? Answer this, ye metropolitan citizens; and you likewise ye great men of the west, answer; is it a man's own worthness and worthiness that ye enquire into when he comes to "solicit your vote and interest"; or is it not some motive that shall be nameless, or perhaps worse even than that, no motive at all, that prompts you either to countenance or discountenance the supplicant, as "best seems meet to you?"

I fear this picture of an English medical election will bear but an ill comparison even with the French "concours." The latter is certainly not the most eligible and congenial mode of testing a man's qualifications, it being an ordeal under which a "younker fresh from school" may outshine an experienced veteran; at the same time it is a mode of proceeding that shuts the door against ignorance and presumption, and that is more than can be said of the other.

If you require further proof than this of the superiority of the French mode of electing medical officers and teachers in comparison to our own, look at the French professors at public medical institutions, and then look at our own. Look at the French veterinary professors likewise, and look at our English ones. Will they bear a comparison? What have the former done for their science and for their schools; and what have we to thank our worthies for? Depend upon it, if this "concours" were introduced into our elections in this country, even with "all its imperfections on its head," we should not long after (as our prospect seems now for years to come we shall) have to worship "ignorance and empiricism in the garb of science," and be forced to acknowledge the *shadow* in the place where we ought to find the *substance*. In fine, in its present lamentable condition, one of the very best changes that could happen to the veterinary profession, in my humble opinion, would be the establishment among us of the French "concours." Better, far better, had we to look up to youth, the true and genuine scion of science, than have to behold grey hairs and ignorance usurping its place.

Your obedient servant,

Scrutator.

# Notes and News

## DIARY OF EVENTS

March 5th.—Annual General Meeting of the North of England Division, N.V.M.A., at Newcastle-on-Tyne.

March 7th.—N.V.M.A. Editorial Committee Meeting at 2, Verulam Buildings, Gray's Inn, W.C.1.

March 11th.—Annual Meeting of the South-Eastern Division, N.V.M.A., at Tunbridge Wells.

March 17th.—Annual Meeting of the Western Counties Division, N.V.M.A., at Exeter.

March 18th.—Annual General Meeting of the Southern Counties Division, N.V.M.A., at Christchurch.

April 1st.—R.C.V.S. Annual Fees due 1932-33.

April 6th.—R.C.V.S. Registration Committee.

April 7th.—R.C.V.S. Examination, Registration and Parliamentary Committees.

April 8th.—R.C.V.S. Library and Finance Committees; Council Meetings.

April 11th.—N.V.M.A. Committee Meetings. Edinburgh.

April 12th.—N.V.M.A. Council Meeting, Edinburgh.

May 5th.—R.C.V.S. Last day for Nominations for election to Council.

May 12th.—D.V.S.M. Examination entries due.

May 19th.—R.C.V.S. Council Election Voting Papers issued.

May 26th.—R.C.V.S. Last day for receipt of Voting Papers.

June 2nd.—R.C.V.S. Annual General Meeting. V.V.B. Fund Annual General Meeting.

June 9th.—D.V.S.M. Written Examination begins.

June 13th.—D.V.S.M. Oral Examination begins.

June 29th.—R.C.V.S. Committee Meetings begin.

June 30th.—R.C.V.S. Annual Dinner.

July 1st.—R.C.V.S. Council Meetings.

July 6th.—R.C.V.S. Summer Examinations begin.

**Aug. 8th-13th.—N.V.M.A. Jubilee Congress at Folkestone.**

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### VETERINARY NOTABLES AT READING

As was jocularly hinted by the Registrar of the Royal College at the Annual Dinner of the Royal Counties Division, N.V.M.A., a report of which will appear in our next issue, it would seem that an infallible method of attaining eminence in the corporate life of the profession is to become a member of that old-established Society. Certain is it that the occasion in question, and the Annual Meeting which preceded it, provided much support for the Registrar's pleasing contention, for we note that the company also included the President and Treasurer of the Royal College, Mr. Male and Colonel Simpson, and in the person of the latter the President of the N.V.M.A., together with the Hon. Secretary of the N.V.M.A. (Mr. McIntosh) and the President of the Central Division (Major Kirk)—all of whom, with the exception of Dr. Bullock, are members of the Royal Counties Society—together with a goodly proportion of members of Councils R.C.V.S. and N.V.M.A. We imagine that a Divisional attendance list of such surely unprecedented distinction will be given pride of place as a Royal Counties "exhibit."

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### R.C.V.S. OBITUARY

Gould, John Spark, 21, Tower Street, Gainsborough, Lincs. Graduated New Edinburgh, May 25th, 1893; died February 21st, 1932, aged 60 years.

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### PERSONAL

*Wills.*—Aitken, Mr. John, M.R.C.V.S., of Dalkeith, Midlothian (personal estate), £14,526.

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Wintle, Mr. William, of Newton Abbot, veterinary surgeon (net personalty £6,833), £7,032.

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### THE SHIRE HORSE

#### Economy in Transport

The exhibitors at the annual London Shire Horse Show, which was held last week at the Royal Agricultural Hall, Islington, were somewhat in excess of the usual number. The standard of the exhibits was as high as in any former years, and supported the views of those breeders who maintain that the Shire horse can still play a very useful part in the national economy.

Sir Walter Gilbey, who presided at an initial luncheon at the Royal Agricultural Hall, said that, when the conditions of agriculture were taken into account, the support which was being given by breeders to the fifty-third show was a matter for sincere congratulation. All who knew anything about horses recognised the merits of the Shire horse and its value to this country. They knew moreover that, if a man bred a proper stamp of horse, there was money to be made out of it, and always would be. He had no doubt himself that Shire horse breeding, in conjunction with other branches of farming, always would be a paying proposition. He ventured to hope that the show would be a distinctive success, and he would like in particular to see the Minister of Agriculture put in an appearance, in spite of the great calls on his time these days. The Shire Horse Show, he thought, was the finest in the world, and 99 per cent. of the exhibitors were *bona-fide* agriculturists.

Mr. N. W.. Smith-Carington, M.P., President of the Shire Horse Society for the present year, said the membership of the Society was something like 4,000, and it was a striking fact that in these years of depression they were able to maintain it at a figure within 100 of its usual total. All engaged in agriculture, he hoped, were now beginning to see a silver lining to the storm clouds that had hung over them for so long a time. In the painful process of reducing costs the fact had been proved that horse transport was a great deal cheaper than motor transport, within limits. There was room for both systems of transport. Within a distance of four to six miles the horse was undoubtedly much cheaper than motor transport for distribution purposes, and up to 16 miles

it might be said that the advantage lay with the horse. Beyond 16 miles it was a moot point as to which held the advantage. Ever since motor transport had been introduced the horse had held the advantage for short distances, and to-day all tests showed that the horse still held the advantage. Users of Shire horses were turning their minds in the direction of the horse, and breeders might look forward to better times for their industry than they had enjoyed in the immediate past.

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### HEAVY HORSE GRANTS

Veterinarians will share with heavy horse breeders and societies (who have delayed making arrangements for the forthcoming season) combined feelings of pleasure and relief at the news that Government assistance in the matter of grants is not to be dropped. It had been feared that, in consequence of national economies, the Government might decide to cut out this form of help to the horse-breeding community.

There is, however, to be a reduction in the grants. An announcement has been made that for the present season the grants are to be £40 per stallion and £30 for assisted nominations. This is a reduction from £60 to £40 respectively. The grants were raised in 1929 for the 1930 season to the last-mentioned figures in respect of stallions hired at a fee not exceeding 400 guineas and serving at a fee not exceeding four guineas. The effect was to stimulate interest in heavy horse breeding generally, and in the first year of the increased grant there was an improvement in the number of foals born.

The news will doubtless enable many societies to hire a better stallion than had been thought possible.

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### A.V.M.A. CONVENTION

A correspondent from the U.S.A. informs us that there is every indication that the A.V.M.A. meeting to be held in Atlanta August 23rd-26th, will set a new record in professional meetings, both in the technical excellence of the programme and the entertainment of those fortunate enough to attend. The southern veterinarians who are in charge of local arrangements, however, will not allow the social features of the convention to overshadow, or seriously interfere with, the more serious side of the programme. Prominent among the pre-convention activities will be a series of articles in leading agricultural and livestock journals telling the farmers and livestock owners something of what is being done in their behalf by the veterinary profession, and stressing the fact that when a local veterinarian is away from his office for purpose of attending a State, sectional or National meeting, he is, in fact, taking a post-graduate course in all that is new in veterinary science. The programme, which is rapidly being completed, will be an especially well-balanced one, and will include speakers of National and International prominence. It is not at all too early to commence making plans to attend this meeting, as some of our readers may be able to do.

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### ERYSIPELAS TREATED BY INJECTIONS OF MILK

I. Ard el Sayed (*Brit. Med. J.*, 1932, 3710, 281) reports the results of treating thirteen cases of erysipelas with intradermal or intramuscular injections of milk. Fresh milk, sterilised by boiling for four minutes, was used in doses from 5 to 15 c.c. The injections were made as near as possible to the site of infection in the belief, which seemed justified, that a local reaction would be produced setting up a line of defence which would form a barrier to the further spread of the inflammation. In most cases a spreading and a receding margin was found, the distribution being usually most rapid in the direction of the lymphatic supply.—*Pharm. Jour.*

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A large number of the 950 sheep and cattle which arrived at Preston, Lancashire, from Dublin recently in the steamer "Lady Galway" had to be slaughtered because of serious injuries received when the vessel ran on to a wall in the Ribble Estuary during a dense fog.

As the "Lady Galway" had to remain at a precipitous angle until she floated again on the next tide, the animals were pitched together in great confusion.

## Correspondence

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.

All correspondence must bear the name and address of the contributor for publication.

The Editor does not hold himself responsible for the opinions of his correspondents.

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### VAGINAL AND RECTAL EXPLORATION

To the Editor of the Veterinary Record.

Sir,—I have been reading, with interest and profit, the excellent paper on the above subject by Mr. L. M. Magee, M.R.C.V.S., in your issue of February 20th.

As regards his reference to contagious abortion as a cause of sterility in cows, I would state that the increase in this disease in some herds is often accompanied by a high sterility rate, and I have noticed that in some instances following the use of living abortion vaccine to immunise previously fertile cattle against the disease, great difficulty is experienced in getting them to conceive. The cause in each case is the uterine catarrh set up. In those cases of sterility of local origin, such as are encountered in herds in which contagious abortion is widespread, I contend, not that the *Brucella abortus* (Bang) produces the chronic metritis associated with the sterility, but that the delayed involution of the uterus affected with *Br. abortus* (Bang) favours the invasion of secondary organisms which keep up the inflammation after the former organism can no longer be found in the uterus. Williams, in his classical work on "Diseases of the Domestic Animals" 1929, considers that abortion and sterility cannot be separated etiologically from one another. According to him they are not different diseases but both result from an endometritis. Any infection of the uterus, according to Williams, can lead to abortion, whether this is due to *Br. abortus* (Bang) or other bacteria. Williams' view is correct only in so far as one is inclined to attribute more to *Br. abortus* (Bang) than is really due to it. It cannot be denied that in many cases *Br. abortus* (Bang) is found in the placental membranes and in the fœtus after abortion, and that abortion can be artificially induced by this organism. It is not a proof that he is correct if this experiment occasionally fails. Williams is correct in so far as he advocates that the inflammation of the uterine mucosa—not the abortion—has to be combated.

I am interested to see that Mr. Magee includes contagious vaginitis as a cause of sterility, as despite the views of Albrechtsen and other authorities of repute, my clinical findings force me to conclude that it is a most fertile source of delayed conception in some herds. In a reference to this disease, a few years ago, I drew

attention to the fact that the bull may transmit the disease, but that his agency was not essential, as I have seen the condition in heifer calves as young as six months. I fail to see the value of the use of a speculum for the diagnosis of endometritis, unless it is to see the condition of the cervix and discharge. The diagnosis of endometritis can surely only be made by rectal examination. The wording of the paper rather conveys the impression that Mr. Magee is referring to cervicitis. I am glad that he emphasises that endometritis is a cause and not a result of sterility. I should like to have the findings of members on the fertility or otherwise of heifers that have had the so-called "white heifer disease." In my experience, they have invariably been sterile. I do not favour the puncturing of cysts of the ovaries by a knife through the vaginal roof. I do not claim to be an expert, but I have not experienced any difficulty in rupturing these *per rectum*. The difficulty that I do at times find, is to squeeze out a persisting corpus luteum when it has sunk deeply into the ovary, as in cases of pyometra.

As regards the differentiation between a maturing ovisac, an ovarian cyst, and a persisting corpus luteum, I am prepared to admit that in the former two this may not be at times an easy matter. The power of differentiation is gained only by experience, and it is not easy to put the differences into words. As a rule, a cyst is very much larger and protrudes (if I may use the word) more above the "surface" of the ovary. A corpus luteum, on the other hand, is a distinctly hard excrescence—it has been qualified as "fleshy," and when sunk into the ovary feels like a stone inside a cherry. Generally speaking, I should say that mares suffer less from cystic ovaries than cows and that some form of metritis is usually responsible for the sterility. A very simple fact to bear in mind is that if the œstrus cycle is normal, cysts, etc., cannot be present in the ovaries, and that the etiology of the sterility will be found to lie in other parts of the genital tract, or in external causes such as deficiencies in the diet, and unhygienic byres, etc.

I am more than intrigued to see Mr. Magee's reference to the absence of semen, in many cases, in the mare's vagina after service. I have noticed this time after time when carrying out insemination, and I am convinced that in the mare, when no malpositions are present and the os is normal in position and patent, most, if not all of the semen is injected into the uterus. It is different in the case of the cow, as here you have a distinct spiral entrance into the uterus, although no doubt in the process of copulation a great deal of this is more or less lost. Williams' contention, I think, is that it is an anatomical impossibility, owing to the nature of the cow's cervix, for the bull's penis to enter into it.

Further, it must be remembered that cervicitis is a fairly common cause of sterility in the cow and that, when pronounced, the alterations in the cervical mucus are such that it has either a lethal action on the spermatozoa, or the physiological sealing of the canal after conception is incomplete and is often attended by early abortion.

Concerning the diagnosis of pregnancy in the cow and mare, I do not consider that rectal examination is fraught with danger in either animal or at any time. The most conclusive evidence of early pregnancy is the presence of the uterine seal, coupled later with an alteration in the vaginal mucus, which becomes "tacky." A veterinary surgeon of experience may be able to make a positive diagnosis as early as the sixth week after service in the cow, and in some cases as early as the fourth. Fœtal movements *may* be felt through the rectum as early as the third month, becoming more marked between the fourth and sixth month. I think it is stated that exaggerated fœtal movements between the fifth and sixth month in the presence of latent uterine infection, intensify it and lead to early abortion.

I have observed iliac thrombosis in four cases—all in hunters—during 18 years in general practice. In each instance there was a gradually increasing weakness of the hind legs, the animal eventually going down and sweating profusely. Rectal examination revealed the condition.

I agree as to the value of Hobday's bitch forceps for the removal of meconium. I usually disarticulate the blades, and press the fenestrated blade into the impacted portion. Giving the foal a good dose of castor oil and enemata within 12 hours of birth will reduce this trouble to a minimum. At one stud at which I attend this used to be a common complaint, but since the advent of a new stud groom, who religiously carries out this rule, I have had no cases to attend there. The meconium spoon on the market is far too dangerous an implement to use. In cases of colic, I should like to recommend to Mr. Magee the value of liquid medicinal paraffin in treating cases of impaction, starting with a good dose that may be a surprise, *i.e.*, half to one gallon. Last year I gave a hunter nearly three gallons in the course of an impaction extending over several days, with resulting recovery. The advantage of this preparation over linseed oil is that you get one good purge. With excessive doses of linseed oil, if purgation starts, it is often hard and at times impossible, to stop.

As regards wounds in the rectum, I prefer to suture these where possible, using double strands of London Hospital 20-day ultratan catgut, with daily dressing of B.I.P.P.

In conclusion, I should like to congratulate Mr. Magee on his excellent paper and the emphasis which he has laid on the value of rectal and vaginal exploration as an invaluable aid in clearing up, as it often does, obscure cases for a positive diagnosis.

Yours faithfully,
J. F. D. Tutt, M.R.C.V.S.

1, St. Cross Road,
Winchester.
*February 21st*, 1932.

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## MAPS, MORALS AND MEMBERSHIP

To the Editor of the Veterinary Record.

Sir,—There might be added to the list of popular fallacies the common one that criticism, unless constructive, is of necessity something base or unfair, uninstructed or useless. Surely occasion may arise when it is not only a right but a duty of the rank-and-file to give voice to forthright criticism, leaving the remedy to those capable of Great Deeds?

"But . . . . . dissensions must take no part in our make-up, and we must pull together. All that will then be required are confidence in our officers and intelligent interest in our domestic affairs." (I quote from the recruiting article, 'A Map and its Moral,' of February 13th.) This sounds less like a live and useful society than some form of intellectual Nirvana.

What attraction is there in that for those who stand out? Will the twelve men of Co. Limerick (100 per cent. non-members) leap gladly into an arena where no coats are to be trailed or trodden on? The two articles, "The Greatness of Estate," and "A Map and its Moral," profess to have been

written with the object of increasing the membership of the N.V.M.A., even to 100 per cent. We are *all* to join because by so doing we shall get a better *Record*, and give greater power to the Council, but we must dissent from nothing, and merely follow with an intelligent interest. I ask, how long is interest likely to be intelligent if dissent is forbidden?

The most obvious moral of the map, ignored by your contributor, is the sparsity of membership in the Irish Free State. The cause of this may be something totally beyond veterinary politics, but all the same, does it not call for some special enquiry as to cause, and perhaps some special method of appeal, to be made in the Free State?

In the "Greatness of Estate" article, the power of the *Record* as a recruiting agent was acknowledged. Some of us object to the way it was used as a bludgeon, but its use was successful in what I judge to be your sense of the word.

The crowd followed the *Record* in 1921, and the *Record* is still the most powerful weapon of the N.V.M.A. If you want to reach the crowd still without the gates, it must be by way of the *Record*. With the present restriction on circulation, your appeals do not reach non-members.

My suggestions are (and let the anonymous map-and-moraliser decide whether or not this is constructive criticism):—

(1) That the *Record* be made available to all at a moderate subscription (say £1 1s. per annum), and that subscription to the National be proportionately reduced;

Or (2) that for a period (six weeks or six months, according to the will of Council) copies of the *Record* be sent free of charge to everyone on the Register R.C.V.S. who is not a member of the National V.M.A.

(3) That in each such free copy a fly-sheet be inserted with a special appeal for membership and subscription to the *Record*.

In the case of copies destined for the Free State I suggest that this appeal should be written and signed by a well-known Irishman. No doubt he could find something livelier to say than the intelligent-interest-without-dissent doctrine.

(This idea of special localised appeal might be extended, even to the length of appeals in Welsh, Yorkshire and the Doric. My own appeal would be couched in the following terms:—

"Brothers, we travelled the same hard road to the one and only portal, through which we passed, to become scattered in our efforts to earn our daily bread. We are of all sorts and conditions of men: careful, careless, industrious, casual, sober, convivial, dull, witty, ambitious, contented. Each of us does not love all the others. Some we hate. One thing at least we have in common, and that is the inadequacy of the reward, either in thanks or subsistence; so let us make that a bond between us, and join together, if not for community of interest, at least for community of sorrow!")

It is obvious, even to a beef-witted Saxon like myself, that any appeal must take account of variations in temperament, must be to imagination and emotions equally as strongly as to reason. We are not 100 per cent. reasonable. Surely there are members of Council of the N.V.M.A. capable of stirring the blood and imagination of the various elements composing the different sections (geographical and otherwise) of the profession whose enlistment is aimed at.

I have given the germ of a plan, which in my view is capable of development into a recruiting campaign, the results of which would far surpass anything likely to be achieved by the somewhat matter-of-fact and cold-blooded articles which have appeared.

And if the plan is too revolutionary, then let it not be followed, but do not talk of 100 per cent., for that is unattainable in any case.

Esmond Brown.

Edinburgh.
*February 21st*, 1932.

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## UTILISATION OF EXISTING KNOWLEDGE

To the Editor of the Veterinary Record.

Sir,—*Re* your Report "Committee on Education and Supply of Biologists," in the *Veterinary Record* of February 20th, it is interesting and gratifying to know that the profession is to receive greater attention from the powers that be. But with all due respect to research and to the status of the profession, the urgencies uppermost in my mind are on different lines. What the world wants is to make much greater use of the knowledge which we at present possess.

The control and eradication of animal disease is not being kept back by lack of research or lack of knowledge, but simply because, for some unaccountable reason, little use is being made of the knowledge we have. Moreover, I do not consider that we want to attract greater and brighter brains or have more intensive post-graduate study.

I am personally acquainted with most of the research workers in England and a good many in the Colonies (such as East Africa) and feel sure that they are perfectly competent to carry out any further research that may be needed: they would merely require money.

It is quite worthy of consideration whether we should to a large extent abandon further research for the time being and instead devote ourselves to seeing that every scrap of knowledge is being fully utilised for the benefit of the present deplorable economic condition of the world at large. A piece of research I would advocate immediately is that one laboratory in one country, other than France, should make a very thorough investigation into the inoculation of cattle against tuberculosis; the expenses to be borne by all the great nations benefiting by it—again excepting France.

As an example of the present lamentable condition, take Johne's disease. Just because there may be some difficulty in the diagnosis of early cases, why on earth does that prevent us from immediately passing laws to make it illegal for the owners of advanced cases to spread the disease? Veterinary practitioners, farmers themselves, and even slaughterers, farm labourers and butchers, know these cases perfectly well, and it is simply ridiculous that the present lack of legislation exists in a civilised country professing any interest at all in the prevention of contagious diseases of animals.

Yours faithfully,

J. M. Armfield.

"Garth Steading,"
Chipstead,
Surrey.
*February 22nd*, 1932.

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*The Editor acknowledges the receipt of the following*:—

Communications from Messrs. G. D. W. Davidson (Castle Douglas), Geo. N. Gould (Southampton), Captain S. J. Motton (Penzance), Major D. S. Rabagliati (Wakefield), Mr. H. C. Reeks, sen. (Spalding) and Mr. J. V. S. Rutter (Hereford).

Report of a meeting of the Central Division, N.V.M.A., from Captain J. F. Macdonald (Hon. Secretary).